

*An Examination of the Barriers to the Uptake of Healthcare Services During Pregnancy in
Rural Tanzania*

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Abstract

The maternal mortality rate in Tanzania is currently estimated as 950 to 1,300 per 100,000 depending on the area, with a lifetime risk of maternal death of 1 in 24 (WHO, 2008). Prenatal care and having a skilled attendant present during delivery significantly reduces maternal mortality by identifying complications early and having someone present to deal with new problems as they occur (World Health Organization [WHO], 2008; Department of Reproductive Health Research [DRHR] WHO, 2008). The primary question of this study was: Which, if any, of the barriers to the use of healthcare services during pregnancy commonly cited in the literature are present in the Singida Region of Tanzania? Interviews were conducted with women who were or have been pregnant (N=67) as well as with local healthcare workers (N=9). The data collected provides a picture of the major economic, social, and infrastructure-related barriers that prevent pregnant women from receiving quality antenatal care and delivering at the regional public hospital. The most commonly cited barriers were the lack of healthcare centers in many areas and to a lack of transportation to the existing healthcare centers, which are often located at extreme distances. National and regional data disaggregation allow for the identification of variation in the barriers to prenatal care uptake and development of appropriate solutions. It is important to examine the reasons women in rural Tanzania do not take advantage of antenatal services so changes can be made to encourage increased uptake and thereby improve maternal health. . The results of this project will contribute to healthcare policy for the study region that is more responsive to the needs of the women in that area. This in turn will lead to a reduction in maternal mortality and infant mortality.

Introduction and Problem Statement

The United Nations' Millennium Development Goals (MDGs) established the need to concentrate on maternal health as a means for achieving a safer and healthier world for all. In 2001, 192 member states came together to pledge support for these ten goals to be achieved by the year 2015. The fifth MDG is to reduce maternal mortality by two-thirds from the 1990 level. The only areas not making progress on MDG 5 are sub-Saharan Africa and South Asia (United Nations, 2008). Maternal mortality is defined as death occurring during pregnancy, childbirth, or in the first six weeks of the postpartum period (WHO, 2008). Between 1990 and 2005 (the most recent year with comprehensive data) the maternal mortality rate worldwide has fallen just 1% per year, far below the 5.5% needed to achieve MDG 5 (WHO, 2007). In sub-Saharan African, the annual decline in the maternal mortality rate is currently estimated at only 0.1% (WHO, 2007). The maternal mortality rate in Tanzania is currently estimated as 950 in 100,000 and as high as 1,300 in 100,000 in some areas with a lifetime risk of maternal death of one in 24. In the United States, the lifetime risk of maternal death is one in 4,800, which is higher than other countries such as Sweden where the lifetime risk is one in almost 30,000 (WHO, 2008)¹. Maternal mortality data are available in the WHO official report. National level statistics on Tanzania were collected using the sisterhood method. The sisterhood method involves asking a representative sample of the population about the survival of all their adult sisters to draw out information concerning pregnancy related deaths (WHO, 2007). This method is generally used in countries lacking complete registration of deaths.

¹ There is a great variety of statistics available from many different reliable sources making it hard to choose the most accurate estimation of the maternal mortality rate. The discrepancy may result from different collection and/or reporting methods.

Routine antenatal visits play an important role in monitoring maternal and fetal health, and acting as a means for establishing a good relationship between women and their healthcare providers, which can lead to a reduction in maternal mortality (Magadi et al., 2000). Through antenatal visits women can receive education regarding possible complications during the pregnancy and birth, and information they can use to make decisions regarding the necessity of a hospital delivery, which can save lives (Magadi et al., 2000). Studies carried out in the Democratic Republic of the Congo reported a 17 fold decrease in maternal deaths with the implementation of standardized antenatal care (McDonagh, 1996). The WHO recommends at least four antenatal visits (WHO, 1996). In Kenya, many women did not seek antenatal care until they are well into their second trimester or later, even though the WHO recommends the first visit be at the end of the first trimester (Magadi et al., 2000). In addition to prenatal care, improved delivery outcomes have been documented when the birth is attended by a trained healthcare professional (DRHR WHO, 2008).

In Tanzania it is estimated that 92% of women have at least one antenatal visit with a qualified health professional in the formal healthcare system, but it is reasonable to suppose this number varies depending upon women's socio-economic status, cultural factors and geography, particularly in rural areas (WHO, 2008; Gage, 2007). In sub-Saharan Africa, as of 2008, less than half of all births are attended by a trained healthcare professional, in Tanzania that number is estimated at 43.4% (WHO, 2008). A healthcare worker or skilled attendant is defined as "an accredited health professional-such as a nurse, midwife, or doctor-who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth, and the immediate postnatal period, and in the identification, management, and referral of complications in women and newborns" (DRHR WHO, 2008). It is important to

examine the reasons women in rural Tanzania do not take full advantage of antenatal and childbirth services, which are subsidized by the government, so changes can be made to encourage increased uptake and thereby improve maternal health. Barriers limiting the use of healthcare services during pregnancy may include culturally inappropriate care, lack of women's autonomy, and delays in the recognition of danger signs and subsequent decision making as well as access to care (Koblinsky et al., 2006). A thorough examination of barriers to the uptake of such services, at the individual level, has not been completed in the Singida region of Tanzania.

Literature Review

Over the last several years, use of prenatal services remained low in many developing countries (Campbell et al., 2006). Consequently many studies have been carried out (see Gage, 2007; Kymuhendo, 2003; Okafor & Rizzuto, 1994; Magadi et al., 2000; Bazzano, Kirkwood, Tawiah-Agyemng, Owusu-Agyei, & Adongo, 2008) in order to elucidate the factors contributing to this lack of uptake. These studies ranged from a purely statistical examination of pre-existing data (Gage 2007, Khan et al 2005), to looking at the most frequent medical causes of maternal death and how to prevent them (Campbell & Graham 2006; Sibley & Armbruster, 1997; Ronsmans & Graham, 2006; Koblinsky et al., 2006), to studies focusing on the cultural barriers to accessing healthcare (Kymuhendo 2003, Bazzano et al 2008, Adamu and Salihu 2002).

Studies focused on the analysis of large-scale statistical databases include (Khan, Mwaku, McClamroch, Kinkela, & Van Rie, 2005 Gage, 2007 Magadi, Madise, & Rodrigues, 2000). In Khan, Mwaku, McClamroch, Kinkela, & Van Rie (2005), 212 women in Kinshasa were surveyed during their first antenatal visit. Women were asked about when a woman should start prenatal care and how many times she should go. They found that 74% of women surveyed

started antenatal care later than recommended by international guidelines (Khan, Mwaku, McClamroch, Kinkela, & Van Rie, 2005). Magadi, Madise, & Rodrigues (2000) used the 1993 Kenya Demographic and Health Survey to gather information about the frequency and timing of antenatal care. In Kenya, uptake of care was shown to be associated with a range of socio-economic, cultural and reproductive factors as well as the desirability of the pregnancy and the availability of healthcare services (Magadi, Madise, & Rodrigues, 2000). Other factors that were found to influence the use of maternal health services included ethnicity, geographical region, and factors broadly defined as “demographic factors” (Magadi, Madise, & Rodrigues, 2000). Using the 2001 Demographic and Health Survey data from Mali, Gage (2007) considered socio-economic status, education levels, and the difference between geographic locations. The study found that in the first trimester transportation barriers were the biggest problems preventing use of prenatal care services. Other factors that influenced care seeking behavior included whether or not a woman’s neighbors had gone for prenatal care and how long the woman had lived in the area (Gage, 2007).

There have been a number of studies that have focused on the most common causes of maternal mortality and their connection to reduced uptake of antenatal services (Ronsmans et al., 2006; Rosato et al., 2006; Waiswa et al., 2008; Campbell & Graham, 2006; Koblinsky et al 2006). These studies are similar to the statistical articles described above but often include “descriptive epidemiology” in an effort to determine which specific groups are most at risk for maternal death. Descriptive epidemiology comes from public health and includes details such as who is affected by a disease or health problem (i.e. based on socio-economic status, ethnicity, etc.), where the most cases are located (geographic locations), and when the cases tend to occur (i.e. seasonal or continuous, peaks in specific months, etc.) (Rosenberg & Handler, n.d.). *The*

Lancet ran a series of articles in 2006 that focused on the problem of maternal mortality, particularly in developing countries. Rosmans et al. (2006) investigated the “who, when, where, and why” of maternal mortality, and examined what populations worldwide were most affected by maternal mortality and why. The study suggested many women were at risk of dying during or immediately after pregnancy due to weak health systems and continuing high fertility. Rosmans et al. (2006) also mentioned the inability of many developing nations to collect comprehensive data about maternal morbidity and mortality. This lack of data makes it more difficult to determine the magnitude of the problem and where efforts to ameliorate it should be focused. The authors identified public health interventions that could be implemented to reduce maternal mortality (Rosmans et al., 2006). Among their suggestions was a long-term investment in the training of midwives and other professionals, free care that is well regulated, and the development of a method to effectively measure progress. Countries such as Bangladesh, Thailand, Malaysia, and Sri Lanka have been able to reduce maternal mortality rates through better family planning programs that offer comprehensive counseling and a steady availability of contraceptives (Rosmans et al., 2006). This reduced the number of induced abortions, which was the leading cause of maternal death in Tanzania and Bangladesh in the early 1980’s and continues to be a main cause of death (Rosmans et al., 2006). The article also explored inequalities in the risk of maternal death and made a strong case for the disaggregation of national data to reveal internal variations.

Rosato et al. (2006) conducted interviews with 172 women’s groups in the Mchinji district of Malawi. They asked women to prioritize the maternal health problems they found to be most important. The most common maternal health problems cited were anemia (87%), malaria (77%), retained placenta (70%), and pre-eclampsia (56%). Those problems identified as

most important were anemia, malpresentation, retained placenta, obstructed labor, and postpartum hemorrhage (Rosato et al., 2006).

Waiswa et al. (2008) conducted ten focus group discussions and ten key informant interviews to determine whether or not internationally recommended maternal and newborn healthcare practices were acceptable to the communities in the Busoga region of Eastern Uganda. They found that though most practices were acceptable, women often did not understand the importance of attending prenatal care more than once unless they were sick. Several community barriers were also identified, including the expense of supplies needed to deliver in the hospital, lack of male support, and a lack of post-natal care (Waiswa et al., 2008).

Both Donnay (2000) and Campbell & Graham (2006) gave an overview of the strategies for reducing maternal mortality that have worked in the past. Campbell & Graham (2006) sought to demonstrate, through literature review, that only a few strategic choices need to be made in order to effectively reduce maternal mortality. They emphasized the importance of employing multiple strategies simultaneously in order to reduce maternal death and the necessity of effective, high-coverage distribution of intervention strategies (Campbell & Graham, 2006). A combination of strategies would include, for example, increasing family planning services, access to safe abortions, and an expansion of postpartum care (Campbell & Graham, 2006). Donnay (2000) looked at previous maternal mortality interventions, their efficacy, and future directions for this area from a policy perspective. Donnay (2000) recommended six priority interventions including (1) improving the availability and use of essential obstetric care for managing complications; (2) improving family planning services; (3) ensuring skilled attendance at birth; (4) promoting women-friendly health services; (5) increasing district-level planning with community participation; and (6) monitoring progress with progress indicators and additionally,

the promotion of safe motherhood as a right (Donnay, 2000). Both articles stressed the importance of widely available and accessible, high quality antenatal care. However, notably, many women cited the over-medicalization of pregnancy and birth as deterrents to the use of antenatal services (Campbell & Graham, 2006). Over-medicalization leads to pregnancy and birth being treated as diseases, leading to more invasive interventions that discount the normality of pregnancy and the birthing process. This means it is important to be cognizant of the birth culture in any location and to strive to maintain the psychosocial benefits of a positive birthing experience (Campbell & Graham, 2006).

Several studies have been carried out in sub-Saharan Africa to explore the cultural aspects of not seeking antenatal care: Nigeria (Adamu & Salihu, 2002; Okafor & Rizzuto, 1994), Ghana (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008), and Uganda (Kyomuhendo, 2003; Waiswa et al., 2008). Okafor & Rizzuto (1994) examined the relationship between women and healthcare providers in rural Nigeria. They uncovered a great deal of hostility between traditional birth attendants (TBAs) (those women that help at births but have no formal training or certifications) and midwives. This hostility was a deterrent to seeking care for many women. The study revealed that men were the primary decision makers when it came to pregnancy and childbirth, including which prenatal care and delivery services would be used by their wives. This is a theme that reappears in other articles (Adamu & Salihu, 2002; Kyomuhendo, 2003). Women who did not need to deliver at the hospital were considered better and stronger than those who delivered in the hospital. Other deterrents for seeking prenatal care or delivery assistance at the hospital included negative interactions with hospital staff, lack of transportation, fear of operations, and prohibitively expensive user fees (Okafor & Rizzuto, 1994). A contribution of this study was the emphasis on the interactions between midwives and

TBAs and how this affected the choices of women. Women were reluctant to change providers even if they wanted to do to the conflict that was sure to ensue and this conflict also promoted distrust of formal health services in general.

Adamu & Salihu (2002) in their study in rural Nigeria emphasized the role fatalism played in the decision making process. A total of 107 women were interviewed to gather information concerning the main deterrents to seeking prenatal care. Many women did not attend antenatal care because the way the pregnancy turned out (whether or not the woman and her child were healthy) was described as being determined by “God’s will” though no further investigation of this explanation was given. This could be an area for further research. The top three reasons the authors cited for why women did not seek antenatal care were financial constraints (46%), God’s will (17.2%), and the husband’s denial of permission to attend (Adamu & Salihu, 2002). The importance of involving men in education efforts was stressed by the researchers, as the husband’s denial of permission was the third most important reason women cited for not seeking antenatal care.

In Ghana, it was found that traditional beliefs about pregnancy and the value placed on home birth influenced the care-seeking behavior of many women (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008). For women, being able to deliver by themselves was seen as a sign of strength and a way to elevate oneself in the eyes of the community (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008). In giving birth alone a woman was able to display traditionally male attributes such as courage and strength. Therefore, many women did not go to the hospital for prenatal care or delivery because this was seen as a sign of weakness. If a serious emergency arose many women waited until the last minute to seek appropriate care. Often times it was too late women died. Hospital delivery was

seen as stigmatizing as it was seen as an admission of weakness and a failure (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008).

Similarly, Kyomuhendo (2003) showed many women viewed birth as a “woman’s battle” and a woman who died during childbirth or had to go to the hospital to deliver was seen as showing weakness. Death was considered failure on the part of the woman. The research done in Uganda focused on several cultural aspects that determine the attributes of a good healthcare worker as well as the social implications of delivering at home and using antenatal care. Also, close relatives and TBAs were preferred over healthcare workers. The healthcare workers were often viewed as outsiders and not truly part of the community or the local birth culture. The course of events during birth was also viewed as pre-determined by God and going to the hospital was seen as a vain attempt to change the course of events. The delivery of available services in the area was not seen as culturally appropriate and the relationship between the women and the healthcare workers was not positive.

Another study conducted in Uganda focused on the local birth culture and the combination of biomedical and traditional antenatal care. Again, TBAs were viewed as more appropriate or desirable resources for antenatal care because they knew how to administer traditional herbal treatments (Waiswa et al., 2008). Overall, the community expressed a deep reliance on traditional birth culture and a distrust of biomedical personnel and practices that were perceived as culturally inappropriate or unacceptable.

Research Problem and Study Objectives

The main objectives of this study were to gain a fuller understanding of the major reasons women do not seek out antenatal care in the rural Singida Region of Tanzania and to gain a full understanding of the birth culture of this region. Previous research has identified a number of barriers (Kiblonky et al., 2006) that appear to be widespread throughout much of sub-Saharan Africa. These include lack of transportation, prohibitive costs associated with getting to or staying in the hospital, traditional birth practices and/or beliefs, and unilateral², often uninformed decision-making by the women themselves and/or the male heads of the household. Other barriers may include discriminatory behavior on the part of healthcare workers, culturally inappropriate care, lack of support, and lack of women's autonomy (Kiblonky et al., 2006).

In the 1960's, healthcare was made free to all the citizens of Tanzania. All medical services delivered from public, government dispensaries and health centers, district, regional and national hospitals were free of charge until 1993 or 1994 (depending on the area) (Mubyazi, 2004). At this point, user fees were reinstated in an attempt to stabilize drug availability and ensure quality and accountable care (Mubyazi, 2004). Pregnant women and children under the age of five are currently exempt from the user fees for essential reproductive and child health related services (Mubyazi, 2004). It is crucial then, to examine other, non-financial reasons for why some women do not take advantage of these services or do not receive the recommended number of antenatal visits. As of 2002, approximately 73% of Tanzanian women had four or more antenatal visits (WHO, 2003).

² Unilateral- without the input of others or without consulting others, especially those whom the decision affects.

Location and People

Tanzania has a population of just over 41 million people. Life expectancy at birth is 52.0 years and the fertility rate is 4.5 children born per woman (CIA, 2010). The country consists of 99% Bantu people, which includes over 130 separate ethnic groups. On the mainland 30% of the population is Christian, 35% Muslim, and 35% indigenous beliefs (CIA, 2010). The female literacy rate is 62.2% and the male literacy rate is 77.5% with the official languages being Kiswahili and English. The main industry is agriculture and the processing of agricultural products including sugar, beer, cigarettes, and sisal twine (CIA, 2010).

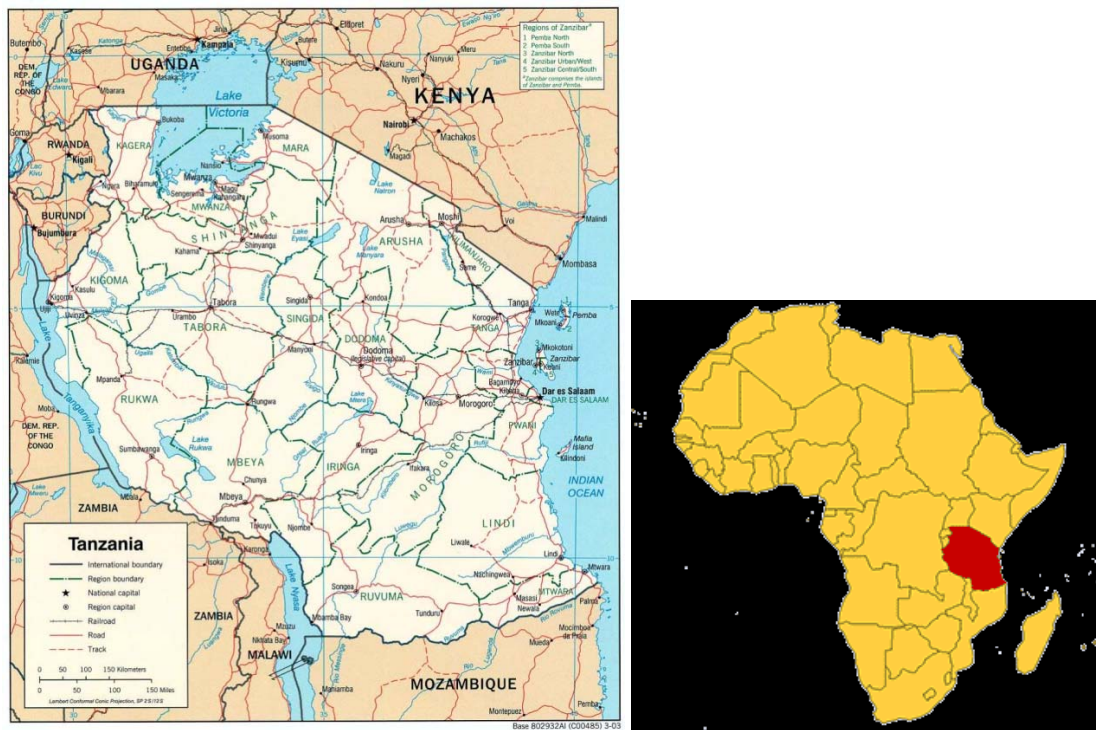


Fig. 1: Maps of Tanzania

Study Region

The study was conducted in the central Singida region of Tanzania, which is located in the north central area of Tanzania and is one of the poorest of the twenty-one regions in the country. In terms of education, the region was ranked 20th out of 21 regions (Swai & Ndidde, 2006). The total land area of the Singida region is 49,341 square kilometers with the majority of that consisting of grazing land, forest and woodland, and arable land. The wet season falls between November and April and the milder dry season from May to October. According to regional statistics from 2005, the Singida Region has a population of approximately 1.09 million people, slightly more than half of whom are female (Swai & Ndidde, 2006). The main ethnic groups are the Minyaturu and the Minyiramba, primarily distinguished by language. As of 2006 there were 595,000 Minyaturu, primarily living in Singida's Iramba and Singida Rural districts (Lewis, Nyaturu, ¶ 1). The majority of the population lives in the Singida Rural District with an average household size of five people and is engaged in agriculture (Tanzania, 2002).

The study was conducted in and around the largest community called Singida Town, which is also the site of the region's only public hospital. Other locations included small villages/communities in the area immediately outside Singida Town as well as the villages of Ilunda, Nkungi, Singa and Kinampundu located approximately two hours from Singida Town. Singida Town is a small urban center with many small businesses and very little tourism. There is a thriving market in the center of town that provides food and other commodities to the majority of the population. The market is also a main source of income for those who have stalls. The town is surrounded by farmland, which can be reached within about fifteen minutes walking distance from the center of town. The majority of the population is either Christian or

Muslim. The primary language is Kiswahili with some regional or ethnic dialects also being spoken³.

The Singida Region is similar to other areas in which maternal mortality continues to be a problem. The largely rural population and overall low population density suggests access to and availability of healthcare services may be limited (Rosmans et al., 2006; Okafor & Rizzuto, 1994; Adamu & Salihu, 2002). There are also sure to be multiple, socially complex barriers to the use of healthcare services during pregnancy, especially for the rural poor, that have not been the subject of past studies. These may include the belief that it is more comfortable to deliver at home, as well as pervasive fatalism, the belief that God predetermines the outcome of the pregnancy and delivery. Fatalism may have developed as a coping mechanism for families with a low level of education and/or little financial recourse should long-term healthcare be necessary as a result of obstetric complications (Waiswa et al., 2008). Fatalism could have also developed in this region due to a lack of control over every day events (lack of personal agency) due to the pervasive poverty of the area. Dating back to the introduction of colonialism, families are often strongly patriarchal and there is a lack of women's autonomy, which makes it difficult or impossible for women to make choices about their own healthcare without the consent of a male authority figure (Gordon & Gordon, 2007). In such instances, the educational level of the man is important so he can make potentially life-saving decisions for his wife and child. In the Singida Region where education is poor, the level of education of both the woman and her husband may play a significant role in determining health seeking behavior.

³ These languages were predominately the languages spoken by the two largest ethnic groups in the region. These include the Minyaturu (language: Kinyaturu) and the Minyiramba (language: Kinyiramba).

Research Questions

Question 1

What are the beliefs and practices surrounding pregnancy (including perceptions of pregnancy, delivery, and thoughts concerning ideal prenatal care) that make up the birth culture⁴ in the Singida Region of Tanzania?

Question 2

Which, if any, of the previously identified barriers (i.e. low levels of education, a lack of female autonomy, and poor infrastructure in the form of hospitals and roads) to the use of healthcare services during pregnancy are present in the Singida region of Tanzania?

Methods

Study Sample

A total of 67 women and nine male and female healthcare workers were interviewed in order to address the two main research questions. The participants fell into three groups:

1. Women recruited from the hospital and neighborhoods of Singida Town: (N=55)

These women were interviewed to understand the birth culture as well as the main barriers to care in an urban setting.

⁴ Here, “birth culture” is broadly characterized to encompass any ideas or thoughts concerning the state of pregnancy and the subsequent experience of childbirth. Birth can be viewed as a “phenomenon that is produced jointly and reflexively by (universal) biological and (particular) society” (Jordan, 1993 p.3). It is this second component that was explored here in order to understand local ideas concerning birth.

2. *Women recruited from outlying villages:* (N=12) These women were interviewed to understand why some women do not take advantage of available healthcare services during pregnancy as well as how the ideas of pregnancy put forth by the women in the villages might differ from those of the women in town. Women were recruited by going house to house and during visits with the village healthcare worker.

3. *Healthcare workers (HCWs):* (N=9) The HCWs were interviewed in order to understand how their attitudes influence the type of care available as well as the care seeking behavior of the women. In addition, they were asked for their ideas concerning pregnancy as well as what they perceived to be the major barriers to the uptake of care in their region. This category included doctors, clinical officers, midwives, and nurses trained in a Western or biomedical tradition, as well as traditional birth attendants (TBAs) who have had at least one year of experience independent of their formal training/education process. Additionally, they were included in order to determine if there exists a disconnect between how the health professionals and general populace perceive antenatal care and pregnancy.

The women were predominantly engaged in farming with their husbands. At the time of the interviews, common local crops such as corn and sunflowers were being harvested and processed. Women played a large role in the processing of both corn into corn flour and sunflowers into sunflower oil which is used for cooking. Many farmers in the area also had chickens, goats, or cows. Despite its designation as Singida Urban District, Singida Town and the surrounding area were still rather sparsely populated. Some women brought their agricultural products to the market in the center of town or have stalls in the market at which they commonly work as cooks or seamstresses. In the villages, the women are almost exclusively engaged in agricultural work. Extensive details concerning employment were beyond the scope of this

study. Of all the women interviewed, 60% were Minyaturu and an additional 14.5% were Minyiramba, with the remainder being from one of seven other ethnic groups. I was not able to establish meaningful relationships with the local women in these villages until the third visit in the middle of August. In order to have access to the community and to speak with the traditional birth attendant who was interviewed, it was necessary to establish a relationship with the village chairmen of these communities. The chairman was an elected official to whom the community turned for guidance, much like a mayor in communities in the United States, though generally on a smaller scale. Once the village chairmen were informed of the purpose of this study they were supportive and willing to help identify women and healthcare workers who might be willing to participate in interviews.

Seven of the nine healthcare workers interviewed were employed by the Regional Hospital. Of those employed by the hospital, five had education through secondary school with an additional four years of training as nurse-midwives. One of the HCWs had a university diploma in Clinical Works. The remaining HCW from the hospital had completed through class seven of primary school and had had an additional two years of training and was the most experienced nurse in the hospital. The village healthcare workers included one traditional birth attendant who had completed class seven and had no additional formal training. The second was a village pharmacist who completed class seven and then had an additional training period of two months in a hospital. Overall, five of the healthcare workers were Minyiramba. The most commonly cited reason for working in the Singida Region was need in the area.

Study Design

Upon arrival in Tanzania in June 2009 final arrangements were made concerning travel to the study area. Further arrangements for the Tanzanian research approval process were finalized. This was my third trip to Tanzania and second to the Singida Region. I spent four weeks in that region in June and July of 2008. Upon arrival in the summer of 2009, a working relationship was re-established with the doctors and clinical officers at the Singida Government Hospital in Singida Town with whom I had worked in 2008. They then helped recruit pregnant women for the study. Interviews commenced on June 30, 2009 at the Maternal Child Healthcare Center of the Regional Hospital. During the third week of July, I traveled to the villages in the study.

The data were collected from June 20, 2009 through September 2, 2009 in a total of five sites including Singida Town and the Maternal Child Healthcare Center of the Singida Regional Hospital, and Ilunda, Kinampundu and Singa villages. In each of the study sites I conducted structured interviews in order to understand the barriers to care and the local birth culture. An exploration of the local birth culture including perceptions of pregnancy and delivery and expectations regarding care are essential for providing a framework for understanding the barriers to the uptake of healthcare services in the Singida Region.

The main components of the interviews were 1) reproductive histories including basic demographic data the woman's age at first birth, how many children had died before the age of five, and the age, gender, and location of birth of each child. These data were collected with the women (N= 67) in order to get information on their reproductive experiences; 2) the local birth culture⁵ including prenatal care and care during delivery⁶, perceptions of pregnancy, and perceptions of delivery. Women were asked to discuss reasons they do or do not seek out

⁵ For the women, survey questions 2, 3, 4, 5c, 9, 10, and 12. For the healthcare workers, questions 5, 6, 9, and 10.

⁶ Women, reproductive history, question 1; survey questions 5a, b, 6a, b, and 8. Healthcare workers: questions 2, 7, 11, 12a-d, f, and 13.

healthcare services during pregnancy. This included questions about who makes the decision to go to the hospital, and when or why it is necessary to deliver in a hospital, what problems arise during pregnancy and delivery, and whether or not pregnancy is safe. These questions were asked in order to understand the expectations, thoughts, and ideals of both the women and the healthcare workers; and 3) barriers to the use of healthcare services⁷ which included questions such as what problems prevent a woman from going to the hospital for care during pregnancy and delivery? These were collected from all the people in the study (N=76) in order to answer the second research question.

I also conducted participant observation at routine antenatal visits both in the government hospital and in the villages in order to ascertain what care was standard in each location, what differences existed for women in the locations, and how this compared to the responses from the women concerning the prenatal care they had received in the past. This was important for building a context in which to understand the comments of the women during the interviews. The participant observation contributed to a more in-depth understanding of birth culture in the region and was meant to address the first research question.

Before the study commenced, ethical approval from the Ohio State University Institutional Review Board (IRB) was obtained (protocol number 2009B0142) as was ethical approval from the Tanzanian government's National Institute for Medical Research (NIMR/HQ/R.8a/Vol.IX/864).

⁷ Women, reproductive history question 1; survey questions 5c, 7, 11, and 12. Healthcare workers, questions 3, 4, 8, 12e, and 13.

Participant Confidentiality

The names of the participants were not connected to their responses to interview questions and all audio files were destroyed after transcription. All data were stored on a secure, password-protected laptop.

Data Analysis

All the interviews were conducted in Swahili and recorded and stored as digital mp3 files. I transcribed all the interviews (approximately 26 hours total) from Swahili to English. The interviews were translated with the help of two translators.

Descriptive statistics were used to summarize the data collected as part of the reproductive histories. Descriptive statistics were also used to summarize the women's and healthcare workers' responses to questions focused on birth culture and barriers to the uptake of prenatal care. Summarizing these data also allows for the comparison of data between the groups of participants. The responses of those in the town were compared to those in the villages and the responses of the women as a whole were compared to those of the healthcare workers.

Text Analysis

This approach was used in two different ways. For the birth culture, themes were allowed to emerge from the text while for the barriers a second approach was used in which I sought out particular words to answer the second research question. Text analysis, both content and conversation, was used to interpret recorded interviews, field notes and observations recorded during the course of the study. A sample (those from each group that were translated first, in no particular order) of the interviews with both the women and healthcare workers was read to identify language specific to the research questions. The sampled interviews were

scanned for words such as “transportation”, “roads”, “far away”, “problems”, “you can’t”, and “bad” that provided insight into the answers to the research questions. Additionally, in order to answer the first research question about the birth culture, I looked for words like “normally”, “common”, “care”, “should”, and “good”. I identified words both in the original Swahili as well as the English translation in an effort to preserve cultural nuances and idiomatic expressions. The text from the interviews was highlighted with different colors corresponding to each theme as it emerged from the comments of the participants. Each highlighted piece of text was cut out and labeled with the number of the woman or healthcare worker who had said it and the survey question number. I then sorted the quotes by color so all the quotes from each theme could be viewed together in order to understand how the theme developed and how the theme added to the discourse on this topic. Other themes not directly pertaining to the barriers mentioned in the second research question were also added in an effort to encompass all aspects of what the women and healthcare workers thought about pregnancy, delivery, healthcare, and barriers to the uptake of care.

Quotes from respondents that exemplify these themes have been included to illustrate the main findings. The text analysis is essential for creating a picture of birth culture in the words of the women and healthcare workers.

Results

Reproductive Histories

Table 1 reports the basic demographic and reproductive characteristics of the town and village women included in the study. Women in the villages (remote, rural communities) were on average five years older, than the women in the town (Singida Town, the urban population). This age difference should not be attributed to recruitment methods as all women were recruited at maternal child health care centers, either at the hospital or those that were set up by village healthcare workers. The village women also had a slightly lower (0.9 years) age at first birth and higher parity (4.3 children versus 2.7). Of the births in the villages, 55.8% occurred in the hospital while in the town, 70.5% of births occurred in the hospital.

Table 1: Characteristics of the Women Interviewed

	<i>Village (N=12)</i>	<i>Town (N=55)</i>	<i>Overall (N=67)</i>
<i>Age (mean)</i>	32.5	27.3	27.9
<i>Household size (mean)</i>	6.8	5.3	5.6
<i>Age at 1st birth (mean)</i>	18.8	19.6	19.5
<i>Parity (mean)</i>	4.3	2.7	2.9
<i>Births in the hospital</i>	55.8%	70.5%	65.2%
<i>Births at home</i>	44.2%	29.5%	34.8%
<i>Highest level of Edu. (mean)*</i>	Class 7	Class 7	Class 7

*Class 7 is equivalent to the 7th or 8th grade in the United States

The women included in the study were from nine different ethnic groups with the two most common being the Minyaturu (60%) and the Minyiramba (14.5%) and came from 2 villages and

30 different neighborhoods of Singida Town and the immediate surrounding area. Of those living in town, 30.9% of lived within 1.0 km of the Regional Hospital. Ninety two and a half percent of the women had studied up to class seven, or the equivalent of 7th / 8th grade in the United States. Until early 2009, secondary education was only available to those who were able to pass a highly competitive entrance exam and had the money for school fees. In 2009 the government abolished the exam though students are still required to pay fees.

Table 2: Characteristics of HCWs Interviewed

	<i>Village (N=2)</i>	<i>Town (N=7)</i>	<i>Overall (N=9)</i>
<i>Years of education beyond primary school (mean)</i>	1.0	6.6	5.3
<i>Most common ethnicity</i>	Minyiramba (50%); Minyaturu (50%)	Minyiramba (57.1%)	Minyiramba (55.6%)
<i>Most common reason for working in the region</i>	Need in the region (50%); Lives there (50%)	Need in the region (57.1%)	Need in the region (55.6%)
<i>Work location</i>	Ilunda Village (50%); Kinampundu Village (50%)	Government hospital (100%)	N/A

Of those healthcare workers employed by the hospital, five had education through the secondary school level with an additional four years of training as nurse-midwives. .

Birth Culture

Care Seeking Behavior and Expectations Regarding Care

An essential aspect of understanding pregnancy in the Singida Region is an understanding of the care a pregnant woman can expect to receive and how that compares to international guidelines and her own expectations. Barriers to the uptake of healthcare services during pregnancy can manifest as poor quality care that does not meet the needs and expectations of the women or simply as infrequent visits for antenatal care due to some other reason.

In order to examine care seeking behavior women were asked how many times they thought a pregnant woman should ideally attend prenatal care and then how many times that had actually attended during their own pregnancies.

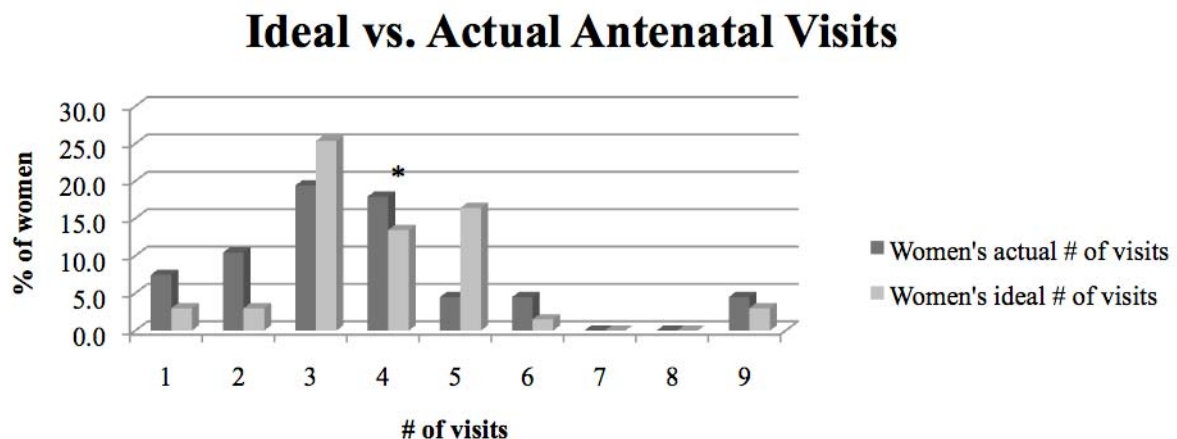


Fig. 2: *World Health Organization (WHO) guidelines suggest four antenatal visits as the ideal number to prevent problems.

The WHO recommends four antenatal visits as the minimum for effective care. Thirteen percent of women answered that a woman should ideally get prenatal care four times while 18% said they actually did go to the clinic four times. The most common response was that women should ideally go to the clinic three times (25%) and 19.4% said they had sought prenatal care

three times. Just over 16% of women said they would ideally like to receive prenatal care five times while only 4.5% of women said they had actually had five visits. Some women (N=29) did not provide a numerical answer and instead gave alternative responses or answers to this question, which included “many”(1.5% for ideal; 14.9% for actual), “when there are problems”(4.5% for ideal) or when the woman is sick, “from time to time”(4.5% for ideal; 1.5% for actual), “the whole pregnancy”(8.9% for ideal), or they did not remember (4.5% for ideal; 10.4 for actual) or know a specific number (7.5% for ideal) and how often they had gone (10.4% for actual).

Healthcare workers were also asked about their views regarding the ideal number and timing of prenatal visits. Amongst those with formal training (clinical officer, nurses) it was agreed that four visits was ideal and that woman should come at 16 weeks, then again two months later, the third visit another month later, and the fourth visit was actually cited as ideally occurring between 26 and 40 weeks but it was stated the woman should come every week at that point, in order to prepare for delivery and closely monitor the woman’s progress. In her response to the question about what constituted ideal antenatal care the traditional birth attendant responded with comments about the far distance to healthcare services and the lack of transportation.

Women were asked what a typical prenatal care visit should include as well as what had actually occurred when they had gone for care in the past with previous pregnancies. A common answer was that the healthcare workers should give the woman advice (34.3%) and that the woman should be tested (40.3%). Typical tests include an initial blood and urine test and then blood pressure measurements at every visit. She should also be given medications (13.4%) to increase blood hemoglobin levels, to prevent malaria, and to treat existing parasitic worm

infections. Women often said they went for prenatal care in order to be educated about what to do or not do while they were pregnant (17.9%). As one woman said, (*Sasa ili ukiwahi enda kliniki unashapima, katika mabaraa katika vile kupima, nani daktari wa huduma ya mama anakushauri vizuri na kutoa dawa hii, kupima tumboni.*) “When you go to the clinic, they examine you and put you through tests, and the doctor advises you and gives you medication” - Woman No. 19.

Resources evolved as a recurring theme that grew from the text to encompass the subthemes of ideal care, experience, equipment, and personal agency. The women and healthcare workers were all able to express their ideas of what constituted ideal prenatal care and care during delivery. The HCWs were asked if the hospital could improve its services for pregnant women and they were asked several questions concerning traditional birth attendants (refer to Appendix I for copies of the surveys). All the HCWs from the town responded that the hospital could improve their services by adding more well-trained staff, improving the quality of the buildings, and ensuring better equipment was available. Along the same line, a lack of equipment and formal training and certification were frequently cited by almost every healthcare worker (77.8%) as reasons women should go to the hospital for delivery instead of using the services of a traditional birth attendant. The HCWs from the villages indicated that the hospital services could be improved by being closer to the women. They also cited a lack of proper or sterile equipment and a lack of formal training which prevented them from being able to take care of complications that might require surgery or other medical interventions. The traditional birth attendant mentioned that she is always trying to gain more knowledge so she is able to help more women, “*Mimi ninafanya uzoefu. Sijapeleka kusoma kwa hiyo inabidi tu. Ninapoenda kujifungua mimi mwenyewe hospitali naangalia waganga wanafanyaje. Ndiyo nasoma muda*

mfupi tu kwa pendo la, eh. Kwa hiyo na mimi nikipata wagafla huko namsaidia hivohivo.” “I work from experience. I did not go to a school to learn my art. When I go to give birth, I observe what the doctors do. When I get an emergency I just help the way I observed” (HCW No. 2). The quotes below provide a representative sample of the responses to these questions.

“Ni maoni yangu, ni kwa sababu mkunga wa jadi hana vifaa. Vifaa vya kumsaidia huyu mama mjamzito anajifungulia nyumbani wakunga wa jadi tunakuwa hatuna vifaa vingi ya kusaidia na hospitali kuna vifaa vingi au wanaweza kazidiwa kashindikana kujifungua akapelekwa operation lakini sasa mimi siwezi!”

“In my opinion, it is because the traditional midwives do not have the necessary tools. Tools to help this pregnant woman to deliver well at home. We do not have necessary tools while at the hospital there are many tools and should they have complications, they can undergo an operation, that I cannot conduct!” (HCW No. 2- Traditional Birth Attendant)

“Kwanza, yule huduma inaitwa hivo akija wakunga wa jadi yule hajapata mafunzo yoyote hivi. Kwa ajili wata ili procedure hanaifanya. Yani anajifanyia tu hivi. Halafu wakunga wa jadi vifaa hamna. Lakini tukija hospitali kuna vifaa vio ambavyo vinatosheleza hivi. Kwa hiyo hata maswali ya kuzuia wa mpokiza hapo kwa mkunga wa jadi na kuwa ni vigumu. Kuliko huko hospitali, eh. Hospitali anafanya procedure jinsi inavotakiwe hivi.”

“Traditional midwives also do not have proper tools. But when we go to the hospital there are tools that meet the needs of the pregnant woman. There are questions therefore [the traditional midwife] is not able to answer. But at the hospital [the woman] goes through the proper procedures.”(HCW No. 4- Nurse)

A lack of equipment and access to healthcare centers were less than ideal for both women and healthcare workers. The more subtle subthemes were those regarding personal agency/ female autonomy and experience. When asked if one of the nurses thought her patients trusted her, she responded:

“Wanafuata. Wanafuata tu! Kwa wote tusituko wafanya kazi wengi kwa yetu anashirikiana eh, nikimwambia ushauri yangu, anafuata. Wananiamini kwa vile na uzoefu nao, ujuzi nao. Kwa hivyo lazima niamini, na mwenzangu.”

“They follow. They just follow. We are many workers and we cooperate. Yes, if I advise her she follows. They trust me because I have the experience and expertise. So, there is mutual trust.”- HCW No. 4

Virtually the same response was given by the traditional birth attendant. On the part of the healthcare workers, experience was regarded as the basis for trust.

“Wananiamini sana kwa sababu ninawasaidia wanajifungua salama na mtoto anakuwa salama kwa hiyo ndiyo mana unakuta unanitumia, wananiamini. Kama hakuwa amini si wanawake wako wengi tu wanawaacha, wanafata huyu mwenye uzoefu. Wanakuamini ndiyo mana anaweza kunitumia.”

They trust me because I have helped many to deliver safely, and their babies have been fine, that is why they trust me. If they do not trust you, they look for someone else who has more experience.- HCW No. 2

The healthcare workers recommended increasing community education both of women and traditional birth attendants as another way to improve services and care overall. The theme

of education was broken into the subthemes of formal and informal education as both appeared to be important to both healthcare workers and the women. The importance of well-trained and educated healthcare personnel, including traditional birth attendants, was stressed by the healthcare workers. The women most often indicated:

“Ndiyo, huduma ya afya kwa wanawake ni muhimu. Ni muhimu kwa sababu wa zidi kuelimisha zaidi kwamba mama mjamzito atakiwafanya nini, anatakiwaipuke na mambo gani, eli kujikinga na maradhi.”

“Yes, healthcare for women is important. It is important because they get educated on what they should or should not do and how to protect themselves from diseases.”- Woman No. 27

This demonstrates the importance of healthcare for the women. It clearly fulfills a need that is present. Through participant observation it was clear that during these short visits to the clinic, pregnant women receive a great deal of important information that allows them to plan for delivery and to guard their own health and the health of their families.

Healthcare workers said the women should “get all the care like vaccination, advice, tests for AIDS, and to know if she has any problems” though they were often not more specific than this (HCW No. 1). Through participant observation it was possible to obtain further information on the contents of a standard prenatal care visit at the Maternal Child Health Center of the Regional Hospital. Women were told to come for four visits unless they were having problems, in which case they should come more frequently. On the first visit the nurses conduct a full body exam to check for any problems. This included examining the head, hair, eyes (to check for anemia and jaundice), breasts, and glands. Legs were examined to check for the presence of edema and varicose veins. The nurse listened to the fetal heart rate starting at the 20th week of

the pregnancy. The size of the uterus was measured with a tape measure in order to determine the gestational age. The woman was asked if she was able to feel the baby moving and if she had any problems including pain or discharge. At every visit healthcare workers weighed the woman and took her height and blood pressure. The women were given sulfadoxine/pyrimethamine (SP) tablets as malaria prophylaxis, mebendazole to cure any existing worm infections, iron, and folic acid. They were also given an HIV test and for those women found to be HIV positive they received counseling on the prevention of mother to child transmission. The woman was then sent for vaccines to make sure she was up to date. The nurses also ordered urine and blood tests. If the nurses identified any problems the woman was sent to see one of the doctors. All care is provided free of charge for the pregnant women though any additional medications not given out at the Maternal Child Health Center were paid for at the pharmacy.

A question was added to the surveys after the start of the research that asked women how they knew to attend prenatal care. This question was asked in order to determine how women got their information and to identify groups of people that might be targeted to encourage an increase in prenatal care attendance and delivery with a skilled attendant. Of the 24 women who responded to this question, 29.2% stated that a nurse had told them it was important to go to the clinic or dispensary for prenatal care. Others said their husband had told them (20.8%), they had decided themselves (20.8%), a doctor had told them (12.5%), another family member had instructed them to go (8.3%), or a friend had recommended they attend (4.2%).

Additionally, women were asked if they were allowed to attend clinic for prenatal care without the permission of their husband or someone else. This question was meant to assess their autonomy and decision making freedom. Of the total sample, 29.8% of the women did not

respond to this question, 35.8% said they were not allowed to go without the permission of their husband, 17.9% said yes, they were allowed to attend clinic without their husband's explicit permission, and an additional 16.4% stated that "you just go", indicating that explicit permission was not necessary due to the importance of attending prenatal care.

"Sasa unaendaje bila ruhusa wakati wanajua kabisa wewe ni mjamzito si lazima unaondoka kwa ruhusa na anajua unaenda wapi. Ehh."

"How can you go without permission? They know you are pregnant and it's a must when you leave they know where you are going. Yeah."- Woman No. 48

"Mwanaume hawezi kukazia. Hawezi kukazia hata siku moja."

"My husband cannot refuse. He cannot say no not even once."- Woman No. 62

"Ruhusu lazima kuruhusu kwa vile ni haki yako kupata huduma. Hata kama amesafiri anajua huyu mama ataanza kliniki mwezi fulani. Kwa hiyo nawe, huwezi kusema mume wangu halipwa siendi. Utaenda tu."

"One gets permission for it is one's right to get antenatal care. Even when he travels he is aware that the wife must go to the clinic on particular months. Therefore you cannot say, my husband is not there so I cannot go. You just go."- Woman No. 63

Women were also asked why prenatal care was important. Many women simple stated emphatically that it was important. Others responded it was important in order to make sure you do not have any problems or to be able to solve those problems. One woman stated it was important for the woman to seek prenatal care if she desired good health for the family.

Perceptions of Pregnancy

In order to answer the first research question, women were asked several questions about what they considered to be a good or bad pregnancy, a difficult delivery, and whether or not they would consider pregnancy to be safe. A good pregnancy was most often characterized as one without problems, during which you do not suffer pain and are not bothered by the child. The child moves in the stomach and both the mother and baby have good health throughout the pregnancy.

“Yanii unakula bila kusikia kichefuchefu laku kiwe na nguvu na fanya kazi zako harakaharaka. Atanaule mtoto tapima fungua atakuwa na afya nzuri kwa sababu kula mara kwa mara.”

“I mean, you eat without nausea, but you have strength to do your work fast. So that even when you deliver the baby itself will be in good health because you ate well.”- Woman No. 63

Access to prenatal care or help at the hospital was also mentioned by two different respondents.

“Unataka usipate tatizo lolote wala maradhi, magonjwa usimpate. Uka(a)ye katika lishe nzuri. Huduma imekaribu. Hawa inakuwa nzuri zaidi.”

“You want not to have any problems or sickness. You should have proper nutrition and be close to health care. This would be good.”- Woman No. 47

The women also mentioned that a good pregnancy was one in which they were able to eat without feeling nauseous and without frequent vomiting. Being free of other illness, including malaria, anemia, and STI's was also mentioned as contributing to an overall good pregnancy.

“Mtoto anatende vizuri, haujisikii homa, haujisikii hutapika, haujisikii kata chakula. Una tendono kwomo pesi hana shida.”

“When the kid is alright, you do not feel feverish, or nauseated, or loss of appetite.”- Woman No. 62.

“Ni kama vile haumwi, huna matatizo lolote. Na kama huna magonjwa wowote.”

“It is for instance, she isn’t sick, that pregnancy doesn’t have any problems. And like, you don’t have any sicknesses.”- Woman No. 35

A bad pregnancy was said to be one during which the woman was in a great deal of pain or suffered from an illness such as malaria, HIV/AIDS, or STIs. Some women mentioned that losing the pregnancy was a bad pregnancy. Often this was due to their personal experiences. One woman in particular mentioned contracting malaria during the pregnancy and then losing the baby due to complications from the malaria. Other problems associated with a bad pregnancy included fever, swollen feet, dizziness, nausea and vomiting, bleeding, and headaches.

“Mimba ambao unabebe mimba alafu unapata matatizo. Umwa na tumbo, wengine wanaumwa taa miguu kukimba wengine wanavimba macho kwa sababu kutokuwa na chakula na lishe na huduma mbali.”

“Troublesome pregnancy would be where your feet swell, you have stomach pains, others develop swollen eyes because of the lack of proper nutrition, and health care is far away.”- Woman No. 47

Another frequent response was that a bad pregnancy involved delivering by Cesarean section in the hospital, generally due to a malpresentation of the baby.

“[Ujauzito] mbaya una matatizo. Unaweza kubeba mimba kweleka kwa operation.”

“A bad [pregnancy] has difficulties. You can carry a pregnancy and end up in surgery.”-

Woman No. 29

The healthcare workers that were interviewed also often agreed with the women on what constituted a good or a bad pregnancy. In addition to not having any problems, the healthcare workers often cited that a good pregnancy is when the woman regularly attends the clinic for prenatal care and she follows the advice which she is given. She should receive all the necessary shots and tests to ensure she is in good health and she should take medication to increase her blood hemoglobin levels to reduce the risk of anemia and subsequent hemorrhaging during delivery.

“Ni pale mama anapoanza kliniki mapema, anapiwa, anabunduliwa hana shida, mtoto amekaa nzuri. Yeye amepata kinga, kama ya mebeya, ya minyoo, anapata dawa kuongeza damu kama ferrousi, au foliki acidi, anapata kinga ya titi, alafu na anaendelea kuhudhuria vizuri kliniki mpaka wakati hule wa kujifungua. Anjifungua vizuri. Basi, wewe tunajua mama huyu anakuwa na ujauzito bora.”

“It’s when the mother starts to visit the clinic and gets tested and notices that there are no problems and the child is in the right position. She has got all the prevention like against worms, and medication to increase blood levels, like ferrous or folic acid, and continues her visits until the delivery day comes. Delivers well/safely, then we know that she has had good pregnancy.”-

HCW No. 1

It was also mentioned by the traditional birth attendant that a “Normal pregnancy, a woman carries it from month one. Second, she does not vomit or hate particular foods; instead

she becomes plump and eats foods without vomiting. That is a good pregnancy. When it comes time to deliver, she does not have any problems, she does it quickly”.

As is apparent in the quotes, food and nutrition appears to be an important component of what constitutes a good pregnancy. Both women and healthcare workers mentioned food related issues or concerns or said a good pregnancy was one without nausea and vomiting and one in which the woman has access to the good foods she needs to stay healthy and promote the health of the baby.

The women were also asked if pregnant women are treated differently than women who are not pregnant. Many of the answers pertained to a pregnant woman’s ability to do work as this was a concrete manner in which to approach this topic. The general consensus was that pregnant women were not expected to work as hard as those women who were not pregnant. A pregnant woman will be allowed to take more breaks and to not do the heavy work she might do at other points in time. Carrying heavy loads came up as a reason for a pregnancy having problems or for the development of problems during delivery.

“Hamna, anapungunza shuguli ngumu kama kulima, analima kidogo anarudi nyumbani. Kuje andache kula kwa wale ambao bado kwisho ndani. Hata maji imechupa ndogo ndogo siyo ile kubwa tena kama lipokuwa yetu bilaki pale ndiyo atakuwa na maumivu. Na safari ndefu anaporuzi. Uko tu karibu karibu.”

“Not really, but they reduce hard labor like digging, you know they should dig a little and go back home. Even water they should carry in little containers not big ones or else they will have pains. They also should not walk long distance, just around her house.” –Woman No. 63

The women often stated that pregnant women should be treated well, have access to proper nutrition, and be well taken care of. They should not be yelled at and they should have a nice, peaceful environment surrounding them during this time.

“Ehh. Mjamzito akipatiwa chakula kizuri kupikwa yule ambao si mjamzito anatakiwa maradhi mazuri. Hata ile kukaa kwake akaaye pazuri penyi hewa safi penye kuvutia kwenye marengo marengo[widespread laughter from surrounding women] anaka na anajisikia kuwa mzuri sana. Alihitaji kukemewa [laughter], alihitaji kuforsiwa na kazi nzito haitakiwa kufanya hivi.”

“Yeah. The pregnant woman is better fed than the one who is not. Even where she stays should be a place that has clean air and beautiful. She should just enjoy herself, she should not be yelled at or forced to do heavy jobs.”- Woman No. 47

Overall, women had a variety of opinions of the subject of good versus bad pregnancy but they generally seemed to agree that a good pregnancy was one without any problems, that was full term, healthy for the mother and child, and did not result in an operation. The answers of the healthcare workers tended to agree with the answers given by the women.

Normal or common issues during pregnancy were also listed by both groups. The women often cited problems such as headache, fever, nausea, dizziness, or swollen feet. Stomach pain and back pain were also commonly related as issues frequently associated even with a normal pregnancy. Other, less frequently given responses included heart burn and mood swings. The healthcare workers included such issues as anemia, heart burn, headaches, dizziness, bleeding before delivery, throwing up, morning fevers, and fast heart rate. It was also noted that some woman might not have access to appropriate nutrition including a variety of

fruits and vegetables and this could lead to some deficiencies. The traditional birth attendant noted that malpresentation of the baby and a lack of strength of the mother was also a common issue.

Perceptions of Delivery

The women in both the town and the villages were asked what they thought constituted a hard or difficult delivery and then what they thought might cause those difficulties to arise. The responses from the women are useful in understanding how the women view delivery as a part of pregnancy and fears or concerns they have about this time. The responses can also be used to ascertain the participants' knowledge level pertaining to the complications that can arise during delivery and what might cause them. The information in this section not only provides more information about the birth culture, but contributes to an initial understanding of the barriers to the uptake of healthcare during pregnancy. The information presented in Fig. 2a and 2b can be compared back to the hypothesis to identify areas of overlap, particularly notable concerning infrastructure related barriers.

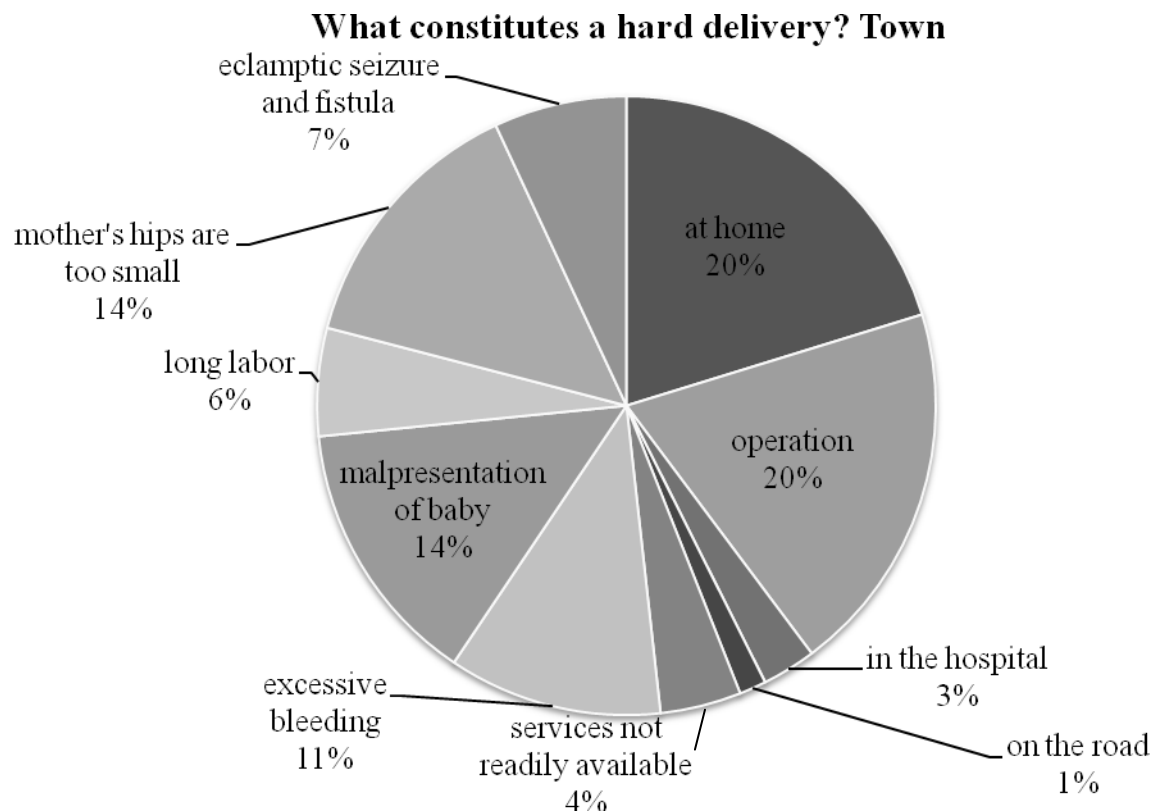


Fig 3a: Responses from women in the town to the question “What characterizes a hard delivery?”

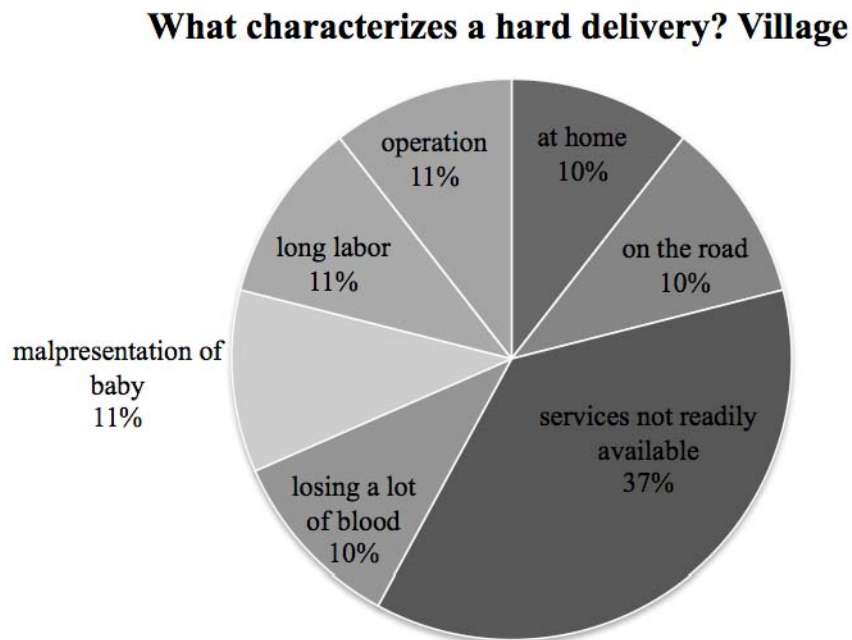


Fig. 3b: Responses from women in the villages to the question “What characterizes a hard delivery?”

As can be seen in Fig. 3a, the most common responses for women in the town were birth at home (20%) or by operation (20%). This was followed by causes such as the mother's hips being too small for the size of the baby (14%) or malpresentation of the baby (14%).

“Kujifungua kwenye matatizo ni kama kujifungulia nyumbani. Akijifungulia nyumbani unakuta matatizo kama mtoto anaweza kaa mutoka aya hayajabedi mtoka. Unaweza kujifungua salama lakini kwanda ulimi halijatoka ndiyo matatizo kutojifungulia hospitali. Lakini akiwa hospitali ni huduma unaipata zaidi kuliko kujifungua nyumbani.”

“Difficult labor is where you give birth at home. When you deliver at home, you might find that baby is not well situated and he refuses to come out. You can deliver safely, but if the placenta hasn't come out, this is one of the problems of not going to the hospital. But at the hospital you can receive better health care than giving birth at home.” –Woman No. 27

For women in the villages, as represented in Fig. 3b, the most common problems contributing to a hard delivery were that fact that services were not readily accessible (including both lack of transportation as well as a lack of physical healthcare centers) which made up fully 37% of their concerns surrounding a bad delivery. Other common problems can also be related to infrastructural problems. Giving birth on the road on the way to the hospital and giving birth at home were each mentioned by 10% of the women.

“Kujifungua kwenye matatizo kule huduma inapokuwa mbali ulipo... tunapoenda kupata matatizo katika kujifungua. Uh, ni pale tu ni ile ambao nimeeleza kwamba ni huduma unapoanzo una uchungu inakuwa ni hali ngumu sana maana magari hapa hakuna, barabara yenwe hakuna. Tunenda kwenda bieskeli au kwa mkokoteni. Hapa kufika Nkungi mtu ameshakufa. Ehh, ndiyo yale mazara hatuna usafiri, hatuna barabara.”

“Difficult labor is when the hospital is far from where you are. Also it’s when you start having problems in delivery and there is no vehicle to transport you. We do not have vehicles or roads. We go by the bicycle, or a cart. Sometimes when they get to Nkungi someone is dead. Yeah, this is the disadvantage of not having roads.”- Woman No. 47

In addition to asking about pregnancy and delivery, women and healthcare workers were asked if they felt pregnancy was safe and the reasoning behind their response. For the women, 68.7% responded that pregnancy was indeed safe and 10.9% stated that it was unsafe for various reasons including the possibility of death or other serious complications. An additional 14.9% of women responded pregnancy was safe only when there were no problems, a response that is closely related to that of the 6.2% of women who responded that the safety of the pregnancy depended, stating that for some women it was safe and for others it could be unsafe. On the part of the healthcare workers, 55.6% said that pregnancy was not safe due to the complications that can occur. Only the traditional birth attendant said pregnancy was safe (11.1% of the sample) and 22.2% stated that pregnancy was safe when there were no complications and the woman was able to regularly attend clinic in order to receive the necessary preventive vaccines and medications.

Despite the fact that most women were able to describe a bad or unsafe pregnancy and describe problems that might arise during labor and delivery, the large majority (68.7%) of them still maintained that pregnancy was an inherently safe condition or state of being. Healthcare workers were more apt to state that pregnancy was unsafe and they tended to be more specific in their descriptions of a good pregnancy, they generally included more details about the care a pregnant woman should receive.

The theme “problems” grew to include the subthemes of problems during pregnancy, problems during delivery, death and dying, and being “defeated” or lacking strength. Quotes with the first three subthemes have been included elsewhere but one that particularly exemplifies the fourth subtheme is from Woman 60, from the town, who stated:

“Maoni yangu kujifungua kwenye matatizo kindi unaposhindikana vingine kujifungua ndiyo kuwa na matatizo wanaweza lakajitokeo sana.”

“In my opinion, to deliver with problems is when you are overpowered and another delivery, yes, is to have problems that can occur a lot.”- Woman No. 60

Here, the idea of being “overpowered” or “defeated” by labor is presented. Though only a total of four women and one healthcare worker used this particular language to describe a difficult delivery, it is worth including as it represents a unique, previously unidentified manner of discussing pregnancy. One woman, speaking of a hard delivery, mentioned, *“Au kwa mfano, iliyo nyumbani, anashindwa.”* “Or for example, in the homes, she is defeated” (Woman No. 43). Another woman said, *“Maoni yangu kujifungua kwenye matatizo kindi unaposhindikana.”* “In my opinion, to deliver with problems is when you are overpowered” (Woman No. 60). The traditional birth attendant said, *“Matatizo? Matatizo ya kawaida labda, labda kuumwa kiuno. Labda,(mtoto) amelala upande moja, na mama nguvu ni tatizo.”* “Problems? Like the normal ones, maybe hips ache. Maybe if the baby is lying on one side and maybe the woman is not strong enough” (HCW No. 2).

Barriers to the Use of Care During Pregnancy and Delivery

In order to answer the principle research question- “Which, if any, of the previously identified barriers to the use of healthcare services during pregnancy are present in the Singida

Region of Tanzania?”-and test the corresponding hypothesis, both women and healthcare workers were explicitly questioned about what might prevent a woman from seeking prenatal care and/or delivering in the hospital. The results of these questions are in Table 3.

Table 3: Barriers to the use of care

Main Barrier	N (% of total reported responses)					
	Village Women(N=10)	Town Women (N=22)	Total for Women (N=32)	Village HCWs (N=2)	Town HCWs (N=6)	Total for HCWs (N=8)
Services not readily available	4 (40)	4 (18.2)	8 (25.0)	2 (100)	6 (100)	8 (100)
Lack of transportation	3 (30)	2 (9.1)	5 (15.6)	2 (100)	4 (66.7)	6 (75.0)
Not previously going to the hospital	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Sickness	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Unexpected delivery timing	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Low income	1 (10)	1 (4.5)	2 (6.3)	--	2 (33.3)	2 (25.0)
Lack of roads	3 (30)	--	3 (9.4)	--	--	0.0
Low education	--	1 (4.5)	1 (3.1)	--	2 (33.3)	2 (25.0)
Laziness	1 (10)	1 (4.5)	2 (6.3)	--	--	0.0
The cold	2 (20)	1 (4.5)	3 (9.4)	--	--	0.0
Bad care from HCWs	--	--	0.0	1 (50)	1(16.7)	2 (25.0)
None	--	6 (27.3)	6 (18.8)	--	--	0.0

It is clear from Table 3 that barriers related to infrastructure (lack of readily available services, and lack of transportation) figure most prominently in the concerns of both the women and the healthcare workers.

Tables 3 and 4 list the most common reasons cited by all groups for not seeking prenatal care or care during delivery. Village women made up just 17.9% of all women interviewed but presented over 38% of the barriers to seeking care.

Table 4 lists the percentage of people that indicated each barrier as being the most important. When the women and healthcare workers responded with more than one barrier their responses were ranked in importance corresponding with the order in which they were cited. The first response was assigned a “1”, the second a “2”, and so forth. Table 4 relates the percentage of all respondents ranking each barrier as number 1, or most important.

Table 4: Relative importance of given barrier

Main Barrier	N (% of total reported responses) ranking barrier as most important					
	Village Women (N=10)	Town Women (N=22)	Total for Women (N=32)	Village HCWs (N=2)	Town HCWs (N=6)	Total for HCWs (N=8)
Services not readily available	3 (30)	3 (13.6)	6 (18.8)	1 (50)	3 (50)	4 (50)
Lack of transportation	2 (20)	2 (9.1)	4 (12.5)	1 (50)	2 (33.3)	3 (37.5)
Not previously going to the hospital	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Sickness	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Unexpected delivery timing	1 (10)	3 (13.6)	4 (12.5)	--	--	0.0
Low income	1 (10)	--	1 (3.1)	--	--	0.0
Lack of roads	--	--	0.0	--	--	0.0
Low education	--	1 (4.5)	1 (3.1)	--	1 (16.7)	1 (12.5)
Laziness	1 (10)	1 (4.5)	2 (6.3)	--	--	0.0
The cold	--	--	0.0	--	--	0.0
Bad care from HCWs	--	--	0.0	--	--	0.0

The idea of physical distance as a barrier to care figured prominently in the discourse about pregnancy and particularly delivery in the hospital and was a prominent theme that arose from

the textual analysis. Even women for whom distance to a healthcare center was not a problem, recognized that it might be for other women. One of the women in town stated:

“Ni kawaida. Wali wengi kwa sikuizi now a days wana wengi kuja hospitali lakini wana wengi wanajifungulia nyumbani ina dependi na mazingira. Wengine wanakuwapo mbali na hospitali kwa hiyo hawanatoa kujifungulia hospitali wanajifungulia nyumbani. Karibu basi, wanakuja huko.”

“It is common. A lot of people, now a days, a lot of people come to the hospital but a lot of people deliver at home. It depends on the circumstances. Some people live far from the hospital therefore they can’t deliver in the hospital, they deliver at home. Near, well, they come here [to the regional hospital].”- Woman No. 8

For the women in the villages the topic of distance was brought up repeatedly and in response to multiple questions throughout the interview. It is clear that this is a theme of great importance for many of the women. One woman stated it is follows:

“ Yani ni huduma kwa sababu iko mbali. Utamtuka umwa wa uchungu kutoka badi Nkungi akajifungulia njiani. Unaona? Sasa hapo ni kwa ajili huduma iko mbali ndiyo na asra. Kwa kumsababisha mtu kujifungulia njiani au nyumbani! Bado anajiandaa amejifungua. Ya matatizo wenyewe haya.”

“I mean, health care is far. You start getting the birth pangs from Badi Nkungi and you give birth on the way. You see? Now that’s where the health care being far has problems. It causes someone to give birth on the road or at home! While she is still preparing, she gives birth! These problems!”- Woman No. 46

In conjunction with the theme of distance was that of transportation. Transportation evolved to include the subtheme of unexpected timing of the birth. Several women mentioned the fact that labor might start before the expected time which could then lead to trouble reaching the hospital in time. Again, this was more prominent in the village, due to the lack of roads and further distances to healthcare centers. For all women, Woman 48 summed up their thoughts concerning barriers to care:

“Usafiri kwa maana. Hospitali zingi ziko mbali haposafiri kuwa shida. Kusafiri wa shida kama sisi hapa mpaka wale subiri Nkungi, subiri Haidom kuzingatia hatuna barabara, ni mbali.”

“Transport. Many hospitals are far from us and transportation is difficult. Transport is a problem. We have problems getting to Nkungi or Haidom because of lack of roads and it is pretty far.”-
Woman No. 48

Transportation appeared to prevent women from traveling to the hospital but many said they were accustomed to improvising and making due with whatever form of transport was available, be it car, bicycle, cart, or even a wheelbarrow.

Distance to or lack of healthcare centers and a lack of transportation were the most commonly cited barriers. The distance is difficult to overcome due to a lack of transportation for the average person. In town and the outlying neighborhoods, taxis are readily available for those about to pay. In the villages, even this is not available and many women spoke of using whatever other method of transport was available, “If the hospital is far you can be transported on a bicycle. Anything that is available to carry. If the vehicles are available you use it” which in some instances even includes carts or wheelbarrows (Woman No. 32). Several women,

particularly in the village, mentioned that a lack of services and extensive distances to a hospital often resulted in the death of the woman either because she was forced to deliver at home and died or she was unable to reach the hospital in time.

“Kujifungua kwenye matatizo kule huduma inapokuwa mbali ulipo... tunapoenda kupata matatizo katika kujifungua. Uh, ni pale tu ni ile ambao nimeeleza kwamba ni huduma unapoanzo una uchungu inakuwa ni hali ngumu sana maana magari hapa hakuna, barabara yenwe hakuna. Tunenda kwenda bieskeli au kwa mkokoteni. Hapa kufika Nkungi mtu ameshakufa. Ehh, ndiyo yale mazara hatuna usafiri, hatuna barabara.”

“Difficult labor is when the hospital is far from where you are. Also it’s when you start having problems in delivery and there is no vehicle to transport you. We do not have vehicles or roads. We go by the bicycle, or a cart. Sometimes when they get to Nkungi someone is dead. Yeah, this is the disadvantage of not having roads.”- Woman No. 47

“Kama huduma iko mbali unaweza kufa. Unielewa? Eh. Ndiyo maana, mtu mjamzito hatakuwa apate huduma kwa kila wakati alafu huduma inatakuwahi kwa karibu.”

“If the health services are far she could die. You understand me? Eh. Yes because a pregnant person is required to receive health care and it should be close by.”- Woman No. 46

One of the village healthcare workers agreed with this problem by saying, *“Mbali hospitali. Nkungi ipo karibu, siyo mbali sana lakini sasa usafiri na kuta hakuna. Naanza kwenda kwa beiskeli kwenye beiskeli mama kama atajifungua, kukaa, hawezi!”* “It really isn’t that far away, but we do not have transportation. We use bicycles, but really if you think about it, a pregnant woman who is about to deliver cannot sit on a bicycle” and this can then lead to children being born on the way to the hospital (HCW No. 2). Healthcare workers also described

the dangers of delivering at home, without the supervision of trained healthcare personnel. The most common complication that was cited as contributing to death during delivery at home was post-partum hemorrhage.

The subtheme of personal agency under the theme of resources was more mixed in the responses elicited from the women. Some women said healthcare during pregnancy was absolutely necessary so they simply went. Others, such as Woman 48, stated:

“Sasa unaendaje bila ruhusa wakati wanajua kabisa wewe ni mjamzito si lazima unaondoka kwa ruhusa na anajua unaenda wapi. Ehh.”

“How can you go without permission? They know you are pregnant and it’s a must when you leave they know where you going. Ehh.”- Woman No. 48

Text Analysis

Text analysis of the interviews from the women and healthcare workers resulted in five unique themes: (1) Distance; (2) Transportation; (3) Resources; (4) Problems; (5) Education. Each identified theme encompassed between two and four subthemes, save for distance, which stood alone. The results from this analysis have been included above in the most relevant sections.

Discussion

For the women in the Singida Region of Tanzania, it is evident that there are several barriers to the uptake of healthcare services during pregnancy and delivery. A well-rounded look at the ideas concerning pregnancy, care, and delivery in this region is essential for understanding the birth culture of the area as well as for pinpointing areas for improvement and intervention. Care seeking behavior and expectations regarding care in addition to perceptions of pregnancy and delivery were used to build an answer to the first research question concerning the birth culture of the region. Characterization of hard deliveries and a look at the explicitly listed barriers to the use of care aid in answering the second research question.

Birth Culture

Care Seeking Behavior and Expectations Regarding Care

Differences in the number of antenatal visits women considered to be ideal (4.5 on average), the number of times they actually went (3.6 on average), and the WHO recommendation of four visits were not very great but based on their responses it is evident that women would like to attend prenatal care one more time than they are currently visiting. Less than 15% of women were aware that four times is the recommendation both by the WHO and the healthcare workers within their own communities. This means few women are aware of the number of times they should be going for prenatal care in order to benefit the most from these services. This has been reflected in other studies (Bazzano et al., 2008) where women were often late to start prenatal care or did not attend as frequently as was recommended.

Descriptions of ideal prenatal care reflect an inability either to remember what exactly was done at prenatal care visits or to explain the significance of the things that were done. Few

women were able to give a full description of all that was carried out during a standard visit. Most women mentioned advice or counsel from the healthcare workers as the most important aspect of these visits. They expected to be given instructions on how to avoid problems and how to take care of themselves while they were pregnant. This informal education fills a niche for these women because this is generally the only time that they receive this type of information. The women were also cognizant of the important role prenatal care plays in early identification of problems though they were often vague on this point, simply saying they went to make sure they didn't have problems and to protect the health of the child.

Perceptions of Pregnancy

Overall, women considered pregnancy to be safe. Those women that said pregnancy was not safe were often ones who had experienced problems in their own pregnancies, such as malaria, Cesarean sections for delivery, or other problems that caused them to lose the baby. There were a few women of those that said pregnancy was not safe that indicated, "it is not safe. You could die, and have problems" and another woman stated, "to me it is safe. Not for all women. A person is sick, she is pregnant and she goes to deliver, she dies" (Woman No. 9, 31). Women did acknowledge a variety of both common and more severe problems that might arise during pregnancy but the overall tone of their discussion was not one of fear or concern for their safety. This acknowledgement that pregnancy was safe was slightly more pronounced in the town than in the villages when comments concerning safety are combined with the comments relating to the problems that might cause a bad or difficult delivery. Given the greater challenges women in the villages face when it come to delivering in the hospital, it does not come as a surprise that they mentioned more concerns about safety during pregnancy. Death is much more of a concern in the village. It is important to have a greater understanding of what the women in

the area consider to be the etiology of complications during pregnancy and delivery so as to address their needs in a way that is responsive to their beliefs and what they feel are their needs.

The healthcare workers, most likely due to higher levels of education and more experience with a wide range of pregnancies, were much more likely to state that pregnancy was not safe. This could also stem from indoctrination into the biomedical system, as exemplified by the United States, which tends to teach that pregnancy is fraught with many dangers and as such should be treated as more of an illness than a natural state (Jordan, 1993). The notable exception was the traditional birth attendant though she did qualify her statement that pregnancy was safe by saying it was safe if you did not have problems. She had the same level of education as the majority of the women surveyed, class seven. She said,

“Ujauzito ni salama, eh! Sasa kuna shida gani ukibeba sasa utafanya. Ilimradi tuizi kupe shida sikupa shida. Ah si... ujauzito ni salama tunaweza ukabeba mimba hutapiki, huumwiumwi, basi utakuwa bahati nzuri, Mungu amekusaidia na jifungua salama.

“Yes. Pregnancy is safe! What problems are there if you conceive, what will you do? As long as it does not give you problems. Yes, pregnancy is safe if you can carry it without vomiting, being in constant pain, then you are lucky, and by God’s help you deliver safely.”

The difference in perceptions of the women and the healthcare workers concerning the safety of pregnancy can also be related to over-medicalization of pregnancy. Biomedicine tends to treat pregnancy as an inherently dangerous state that needs to be managed (Jordan, 1993). This is reflected in the responses of many of the healthcare workers who stated pregnancy was not safe. In fact, uncomplicated pregnancies are quite safe and do not strictly require medical intervention (Jordan, 1993). This idea has evolved as more births have taken place in the

hospital. The women in Singida, both rural and urban, considered pregnancy to be a normal state, one that is not inherently dangerous which is in keeping with the findings from (Waiswa et al., 2008; Kyomuhendo, 2003).

Another theme that arose frequently amongst both the women in the town and villages as well as both groups of healthcare workers was that of proper nutrition for women during pregnancy. Women attributed both normal issues as well as problems during pregnancy to nutritional deficiencies or other food related causes. Nausea and vomiting were characterized as a part of most pregnancies but a good pregnancy was one where the woman was able to eat without throwing up. She also had access to appropriate nutrition that could aid in building up her strength and in promoting the health of the developing child. This same theme of concern about nutrition during pregnancy has been seen amongst the Iraqw of northern Tanzania as studied by Patil (2004). It is possible this concern with nutrition and food stems from fears of food insecurity generally in the area or as a result of an individual lack of resources (ie. money to purchase foods not grown by the family) and reduced access to a varied diet (particularly in remote villages where there is little trading).

Another common topic of discussion was that pregnant women should not carry heavy loads while they were pregnant. Carrying large baskets, heavy water jugs, and large loads of sticks or other supplies was a common part of a woman's life in this area. It was much more common to see women carrying heavy loads of this nature as opposed to men. Women and children were generally the ones in charge of fetching water from the local tap and this was often a great distance away. This recognition that a pregnant woman should not carry heavy loads means that others must be helping her with her work load in order to ensure she is safe. Two women even mentioned carrying heavy loads during pregnancy as a potential cause of problems

during pregnancy and delivery. The emphasis on heavy loads is most likely a reflection of what figures prominently in the quotidian life of the women in this region.

Perceptions of Delivery

It is clear there is a significant difference in the way women in the town and the villages view a difficult delivery. In the town, an operation was cited twice as often as it was in the villages, the mother's hips being too small was not mentioned in the village but made up 14% of the responses from the town. Another difference was the mention of eclamptic seizure and fistula by women in the town and not by the women in the villages. It is possible this knowledge of the causes of difficult labor and more technical problems (eclamptic seizure and fistula) results from a greater degree of information being available to the women in the town due to their more immediate proximity to a full service hospital. Regardless of formal education levels, greater access to more comprehensive informal information and education surely plays a role in these differences. This difference also demonstrates that urban women are more exposed to the biomedical views of pregnancy and this can lead to over-medicalization, which can cause a greater concern for the relatively rare pathologies that sometimes occur during pregnancy.

Women in town also indicated twice as often as women in the village that giving birth at home is considered a difficult delivery. This may be due to the town women's perception of the home as less safe and less acceptable due to the information they have been given by nurses and other healthcare workers. A greater frequency of hospital births creates a culture in which it becomes less socially acceptable to give birth at home. During the reproductive histories many women who had had a child at home indicated they knew they were supposed to go to the hospital but had delivered at home due to a number of barriers. Again, over-medicalization of

pregnancy and birth should be discussed. The differences in the responses from women in the villages and in the town represent different levels of exposure to biomedicine and what is deemed most appropriate for pregnancy and delivery. The women in the town have been more exposed to biomedicine due to closer proximity and more visits to the hospital where they are told it is necessary to always deliver in the hospital. The women in the villages, on the other hand, have a greater proportion of their children at home, which can be viewed as being both a cause and a result of less medical intervention. The women in the villages, the rural sample, tended to view birth at home less negatively than those women from the town, the urban sample.

Finally, 37% of women in the villages, versus just 4% in town, indicated that a hard delivery was characterized by a lack of healthcare services or the distance to a healthcare center. Combined with the 10% of village women who indicated a difficult delivery is one that occurred on the road, it is possible to attribute just less than 50% of the characteristics of a hard delivery to infrastructure challenges.

These differences expose potential areas for directed interventions particularly in the case of the village. Addressing the infrastructure related problems may significantly reduce concerns surrounding a bad delivery.

Barriers to the Use of Services During Pregnancy and Delivery

The two main barriers were lack of readily accessible services and lack of transportation. The lack of healthcare centers in remote villages leads to virtually insurmountable distances to healthcare facilities. Contributing to low availability of services is the fact that it is often very difficult to recruit practitioners to work in rural areas because they prefer the amenities that come with working in an urban environment (Couper & Worley, 2002). This can then lead to a

shortage of HCWs willing to relocate to rural areas once they have completed their training. This was mentioned in informal discussions with various HCWs in and around the Singida Regional Hospital and I was told it was particularly difficult to recruit female physicians to work in the rural areas, far from any major cities.

Other barriers that were mentioned frequently by the women included not having previously gone to the hospital for care, sickness, unexpected delivery timing, and lack of roads. Healthcare workers did not mention any of these barriers. Instead, they tended to focus on lack of education, low income, and poor quality of care from the healthcare workers.

“Moja ni namna gani wakunga wat... harumpokea hasa lugha ka... chafu. Labda kwanza kumzalishwa hawa mchafu wewe. Hizi ni sababu kwa huduma moja uweko kukataa kwenda. Nani alimpokea, namna kumpea inakuwa kama bif tati kidogo. Sasa inaweza kumsababisha kwamba huyu mtu asipendelea akabak kujifungulia tana mbali.”

“One way is the way the nurses treat these women... especially when they scold the women and use dirty language. These are some of the reasons that might discourage women to go. Who received the women, how they were received makes a difference. Now these can determine if this woman will stay or deliver elsewhere.” (HCW No. 3)

Another healthcare worker described the embarrassment some women may feel when they go to deliver in the hospital. Either the woman is older and is embarrassed to be around all the younger women or she may be uncomfortable being examined by a male doctor or nurse because she is afraid of them seeing “her secret parts” (HCW No. 1). Some of these issues were cited by women in a previous study conducted in Nigeria (Okafor & Rizzuto, 1994).

The data support the literature findings concerning the importance of infrastructure related barriers (Waiswa et al., 2008; Adamu & Salihu, 2002; Ronsmans & Graham, 2006; Gage, 2007) but by and large, the other major barriers discussed by the women were overlooked in the literature. This represents an opportunity to address barriers women self-identified and thereby improve outcomes for these women. It was healthcare workers who mentioned the importance of low education and low income. It is possible the women did not bring up these issues because they live in neighborhoods that are relatively homogenous, with similar levels of income and education. Therefore, to them, these factors don't explain the differences in outcomes that women experience during pregnancy and delivery. Data concerning level of education and income can also be more easily found in census data. This means these factors present a relatively easy way to explain care seeking behavior. However, the barriers identified by the women represent a unique opportunity to address what the community has identified as their main problems. This is especially important for planning interventions or programs to improve the use of healthcare services. By addressing problems identified by the community, an intervention is more likely to be seen as coming from within the community as opposed to being imposed from the outside. This will increase community buy-in and ultimately the success and sustainability of the initiative (Rosato et al., 2006).

The infrastructure related barriers were not only mentioned most often but they were also given the most importance by both women and healthcare workers. The other, differing responses between the healthcare workers and the women suggests that healthcare workers could be better informed about their patients' priorities and concerns. This would lead to increased and more effective communication between the different groups, but also improved patient

compliance and outcomes for the women. The differences between the women and their healthcare providers may be a barrier in and of itself, outside of “bad” care.

Text Analysis

The text analysis provided in the results is meant to provide a framework of understanding for the subsequent discussion of the research questions and hypothesis. The voices of the women and the healthcare workers are an essential component of understanding the problems in the Singida Region and how people have been forced to adapt. People, especially in the rural villages, have adapted by utilizing TBAs and by using whatever means of transportation is available even when it is less than ideal. Problems during pregnancy, transport by cart, and even death are recognized as realities of pregnancy in some areas. The underlying causes of these problems are apparent from the other themes that evolved from the interviews including distance, transportation, resources, and education. Distance and education clearly fall under the category of barriers to care. Problems, education, and resources fall both under the broad umbrella of barriers to care but also help to understand the birth culture by explaining expectations concerning care and the overall state of pregnancy.

The results of this study improve understanding of why some women seek out care and others do not. This also leads to a better understanding of why maternal mortality rates continue to be so high in Tanzania, with implications for other, similar sub-Saharan countries. The barriers commonly cited in the literature only tell part of the story. Addressing only those problems related to transportation and lack of services would certainly reduce maternal mortality levels but would not eliminate the problem (Ronsmans & Graham, 2006). It is possible that a

lack of locally individualized programs has contributed to the minimal annual reduction in maternal mortality rates throughout sub-Saharan Africa.

Limitations

In the future this study should be extended to women in more villages to see if the findings hold true for other rural villages in the region. Due to the difficulty of establishing trusting relationships with village chairmen and the women in the villages, there is a predominance of subjects from the immediate Singida Town area. This was unavoidable due to time constraints and limited access to the villages. There were also a very limited number of interviews with village healthcare workers. This again was due to the difficulty involved in identifying and contacting these people. A list of other women that act as traditional birth attendants was obtained but there was limited accessibility to the neighborhoods in which they work. People at the hospital also mentioned the reluctance of some women to admit that they are in fact traditional midwives due to emphasis on use of hospital services as the ideal and this may have contributed to difficulty in finding these people. I would also like to have the opportunity to accompany a traditional birth attendant when she assists in a deliver as this could add an important additional component to the participant observation. Other information that would have been good to get while in Tanzania would have been information on how it is decided where healthcare centers are built. Additionally, it would be useful to conduct focus groups with all the groups of participants included here as well as husbands. Many women stated their husbands told them it was important to go to prenatal care and I would like to know where the men get this information. The assistance of an interpreter would have aided in soliciting answers with more depth. There were some language barriers when the women were used to predominantly speaking their ethnic language. Talking to more women who have not yet been

pregnant would be an interesting new component to include in order to examine how pregnancy is viewed from the outside, by those who expect to one day become pregnant but have not yet had children.

Conclusions

Overall, only one of the three barriers (lack of female autonomy, poor infrastructure, and low levels of education) proposed in the second research question was supported; it is quite clear that infrastructure-related barriers pose the greatest problem in the Singida Region. The other proposed barriers included lack of women's autonomy and low levels of education. The data do not support either of these as prominent barriers to the uptake of healthcare services in this region. The differences between women in the villages and women in the hospital make it apparent that national and regional data disaggregation would allow for the identification of variation in the barriers to prenatal and delivery care uptake. This would then allow for the development of more locally appropriate solutions. The differences in responses between women and healthcare workers indicate that healthcare workers could be better educated about their patients' concerns and priorities as a way to improve outcomes.

Addressing these barriers, both those previously identified in the literature and those uniquely self-identified by the women, and improving communication between healthcare workers and their patients will contribute to helping achieve the reduction in maternal mortality that is called for in Millennium Development Goal 5. The health of the mother is closely linked to the health of the household. Achieving better maternal health will improve the lives of all.

Significance

Many of the same barriers exist throughout sub-Saharan Africa and as such this project has international significance (see literature review and in particular: Ronsmans & Graham, 2006; Gage, 2007). The information gathered through this project could eventually be used to inform healthcare policy. The results from this research create a foundation for further study as well as for recommendations that could lead to more directed antenatal care that appeals to and is accessible to more women. No comprehensive studies of barriers to the use of and access to antenatal care have been carried out in the Singida region of Tanzania. This study furthers the body of work about the Singida region of Tanzania as well as produces a more complete and in-depth analysis of the barriers to the use of healthcare services during pregnancy and delivery.

This study is designed to benefit the women of the Singida Region as well as the doctors and other healthcare workers of the area. Copies of this document will be provided to the Tanzanian government as required by the National Institute for Medical Research and the Commission on Science and Technology. Local collaborators including the Doctor in Charge at the Singida Regional Hospital and village chairmen, will also be provided with copies of this study in order to help them to further understand the issues in their region. The organization Outreach Africa, an American NGO, will also be provided with the findings. It will be recommended that Outreach Africa design a program for implementation in the villages that address the needs of the pregnant women in that area.

Appendix I

Historia ya uzazi (Reproductive History)

No. _____ Ukabila _____ Kijiji/jamii _____

Umri _____

Parity _____

Ulikuwa na umri gani ulipopata mtoto wa kwanza? _____

Idadi ya watoto waliofariki _____

Alifariki kwa sababu gani? (i.e. stillborn, abortion, other; those that died within first year or first 5 years):

Waliofariki kati ya mwaka wa kwanza na wa tano; waliozaliwa wakiwa wafu; kwa sababu ya utoaji; sababu nyingine

Watu wangapi wanaoishi katika nyumba? _____ Umri wa mume _____

Ajira ya mume _____

Watoto

Jina (name)	Umri (age)	Jinsia (gender)	Alizaliwa wapi (location of birth)	Tarehe ya kuzaliwa (birth date)

1. Location of deliveries:

If delivered at home: Who helped when you were giving birth? TBA Midwife Other

Name of TBA or midwife. Why did you decide to deliver at home (ask for ~50 of the interviews) What did the traditional birth attendant do?

Mahali pa kujifungua:

Ikiwa ulijifungulia nyumbani: Nani aliyekusaidia? Mkunga wa kitamaduni; Mkunga; Yeyote mwingine. Jina la mkunga au mkunga wa kitamaduni. Nani aliyekusaidia? Kwa nini uliamua kujifungua nyumbani? Mkunga wa jadi alifanya nini?

If delivered in the hospital: Who accompanied you? Where did you and those that came with you stay? Did you have financial support? Who helped with the delivery? Who was present during the birth?

Ikiwa ulijifungulia hospitalini: Nani aliambatana nawe? Mlikaa wapi? Ulikuwa na msaada wa kifedha? Nani alikusaidia katika kujifungua? Nani alihudhuria kujifungua kwako?

Nani alikusaidia katika kujifungua?

If both experiences: Differences? Which one did you prefer? Why?

Tajiriba zote mbili : Kuna tofauti? Ulipendelea tajiriba gani? Kwa nini?

Kuna tofauti?

Ulipendelea tajiriba gani?

Kwa nini?

2. Have you had any problems in any of your pregnancies? YES NO

If yes: What kinds of problems?

Ulikuwa na matatizo yoyote wakati wa uja uzito wako? Ndiyo Hapana

NDIYO: Tatizo aina gani?

Mwanamke (Woman)

No.____ Ukabila_____ Kijiji/jamii_____

Umri _____

Kiwango cha juu cha elimu kilichofikiwa? _____

Ulikuwa na umri gani ulipozaa mtoto wa kwanza? _____

Parity_____ Marital status /una mume? _____

Maswali

1. How many children would you like to have? 1a. How many children does the ideal family have?

Ungependa kuwa na watoto wangapi? Familia inayokuvutia ina watoto wangapi?

2. What is a normal/healthy pregnancy like? Please describe a healthy/good pregnancy. Were all your pregnancies normal/good/healthy? Describe an unhealthy pregnancy. Were any of your pregnancies unhealthy?

Uja uzito mzuri huwaje? Tafadhali toa maelezo kuhusu ujaozito mzuri. Uja uzito wako wote ulikuwa mzuri? Tafadhali toa maelezo kuhusu uja uzito mbaya . Je, uliwahi kuwa na uja uzito mbaya?

3. Are pregnant women treated differently than women who aren't pregnant? How so? Why do you think?

Je, mja mzito hutendewa tofauti na wanawake wasio waja wazito? Vipi? Kwa nini unafikiri hivyo?

4. Is being pregnant safe? Why or why not?

Je, uja uzito ni salama? Kwa nini ndiyo au hapana?

5. Is prenatal care important? Why/why not?

Je, kwa maoni yako, huduma ya afya kwa wanawake waja wazito ni muhimu? Kwa nini ndiyo au hapana?

- a. Under what conditions should someone seek prenatal care?

Katika hali gani ni lazima mja mzito apate huduma ya afya?

- b. How often should a woman get prenatal care during her pregnancy? What times during the pregnancy?

Ni sharti mwanamke mja mzito apate huduma ya afya mara ngapi? Wakati gani katika uja uzito?

6. Is it common for women to get prenatal care? Is it more common to go to the hospital, a midwife or someone else?

Je, ni kawaida kwa wanawake waja wazito kupata huduma ya afya? Je wao huenda wapi zaidi kujifungua? Hospitalini, au kwa mkunga, au mwingine?

- a. Who provides the prenatal care? Nani hutoa huduma ya afya?

1. What should this person do during a typical visit? Is this the same at all times during the pregnancy? How much is this person paid or what are they given for their services (TBA, midwife)?

Mtu huyu hupaswa kufanya nini katika ziara ya kawaida? Katika kipindi chote cha uja uzito ziara hizi hufanana? Mtu huyu hulipwa pesa kiasi gani au hupewa nini kwa huduma yake?

- b. Have you ever received prenatal care? What did they (doctor, midwife, TBA, etc.) do?

Umewahi kupata huduma ya afya kwa waja wazito? Walifanya nini? (Daktari, mkunga, mkunga wa kitamaduni, n.k)

7. What things affect your ability to get prenatal care?

Mambo gani yanaathiri uwezo wako kupata huduma ya afya?

8. For each pregnancy how many times do/did you go for prenatal care?

Kwa kila uja uzito, ulipata huduma ya afya mara ngapi?

9. What are the most common problems that arise during pregnancy?

Matatizo aina gani ni kawaida zaidi kwa muda wa uja uzito?

10. When is it necessary to go to the hospital to deliver? Have you ever delivered at the hospital? (see reproductive history) How did that experience differ from a home delivery? Who was there? What happened?

Ni wakati gani wa kwenda hospitalini kujifungua? Ulijifungulia hospitalini? Nani aliambatana nawe? Mlikaa wapi? Nani alikusaidia katika kujifungua? Nani alihudhuria kujifungua kwako?

11. Is it common for women to deliver their babies in the hospital? If no: Why? What are some of the obstacles?

Je, ni kawaida mja mzito kujifungulia hospitalini? Hapana: Kwa nini? Baadhi ya vikwazo ni vipi?

12. In your opinion, what is a hard/difficult delivery? If a woman has a hard delivery what might be the cause?

Kwa maoni yako, kujifungua kwenye matatizo ni kupi? Nini kinaweza kumsababisha mwanamke kuwa na matatizo wakati wa kujifungua?

Wahudumu wa afya (Healthcare workers)

No. _____

Kijiji/jamii _____

Umri _____

Miaka ya elimu _____

Ukabila _____

Survey conducted in: English Kiswahili

Maswali

1. How did you decide to come to work in this region? (Family, need in the region, no choice, etc.) What kind of training do you have? How long did your training take?

Je uliamua kuja kufanya kazi katika eneo hili vipi? (Familia, uhitaji katika eneo, kulazimika, nk.) Una ujuzi aina gani? Ulizoezwa kwa muda gani?

2. Please describe what you think would be ideal antenatal care: (The number of times, when the visits should occur, what each visit should include, who should provide the service?) Does this differ from the care the hospital is able to provide?

Tafadhali toa maoni yako kuhusu huduma bora ya afya kwa wanawake waja wazito. Je, yanatofautiana na huduma ambayo hospitali inaweza kutoa? Mara ngapi, lini, kila ziara inapaswa kuhusisha nini? Nani anapaswa kutoa huduma?

a. Could the hospital do a better job? What might it do to improve?

Je, hospitali inaweza kuboresha huduma yake? Inapaswa kufanya nini?

3. What obstacles might impede a woman's ability to go to a hospital for prenatal care?

Vikwazo gani vinaweza kumzuia mwanamke mja mzito kutafuta huduma ya afya?

4. Do the women pay for these services? Medicines that are prescribed?

Je, wanawake hulipia huduma ya afya? Madawa?

5. What is a normal pregnancy like?

Uja uzito mzuri huwaje?

6. Is being pregnant safe?

Je, uja uzito ni salama?

7. Is it important to seek prenatal care? Why?

Je, kwa maoni yako, huduma ya afya kwa wanawake waja wazito ni muhimu? Kwa nini?

8. Is it common for women to go to the hospital for prenatal care?

Je, ni kawaida kwa wanawake waja wazito kupata huduma ya afya hospitalini?

9. What are the most common problems that arise during pregnancy?

Matatizo aina gani ni kawaida zaidi kwa muda wa uja uzito?

10. Is it common for women to deliver their babies at the hospital?

Je, ni kawaida mja mzito kujifungua hospitalini?

11. Is it important for women to deliver in the hospital? When? Why?

Je, kwa maoni yako, ni muhimu kwa mja mzito kujifungua hospitalini? Lini? Kwa nini?

12. What do you think of traditional birth attendants and midwives? Do many women use them? Do they (TBAs) work well with hospital staff?

Wafikiri nini kuhusu wakunga wa kitamaduni na wakunga? Wanawake wengi huwatumia? Je, wakunga wa kitamaduni na wakunga hushirikiana na wahudumu wa hospitali?

a. Who are they? How are they trained?

Wakunga wa kitamaduni au wakungu wanatoka wapi? Wana ujuzi aina gani?

b. Where do they practice? What do they do?

Wakunga wa kitamaduni na wakunga hufanya kazi wapi? Hufanya nini?

c. Are they paid? How much or with what?

Wao hulipwa? Pesa kiasa gani au na nini kingine?

d. Do women commonly go to them for prenatal care? For delivery?

Ni kawaida kwa waja wazito kuwatumia kwa huduma ya afya? Kwa kujifungua?

e. Why do you think women might choose a TBA over the hospital?

Kwa maoni yako, kwa nini unafikiri waja wazito wamechagua mkunga wa kitamaduni badala ya hospitali?

f. Do they ever work with people at the hospital? How do their services differ from those received at the hospital?

Je, wakunga au wakunga wa kitamaduni hufanya kazi na wahudumu hospitalini?
Hudumu yao hutofautianaje na huduma inayotolewa hospitalini?

13. Do the women that come for prenatal care follow your advice? Do you feel like the women listen to you or do they listen more to the advice of someone else? If yes, whose? Do you think women trust you and the services you provide?

Je, waja wazito wanaokuja kwa huduma ya afya hufuata ushauri wako? Unahisi kama waja wazito hufuata ushauri wako au wa wengine zaidi? Ndiyo: wa nani? Unafikiri waja wazito wanakuamini wewe na huduma yako?

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Appendix II

IRB and Ethical Approval Documents



Behavioral and Social Sciences Institutional Review Board

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May 10, 2010

Protocol Number: 2009B0142
Protocol Title: AN EXAMINATION OF THE BARRIERS TO THE UPTAKE OF HEALTHCARE SERVICES DURING PREGNANCY IN RURAL TANZANIA, Barbara Piperata, Adrienne Strong, Anthropology.
Type of Review: Continuing Review—Expedited
IRB Staff Contact: Jacob R. Stoddard
Phone: 614-292-0526
Email: stoddard.13@osu.edu

Dear Dr. Piperata,

The Behavioral and Social Sciences IRB **APPROVED BY EXPEDITED REVIEW** the above referenced research. The Board was able to provide expedited approval under 45 CFR 46.110(b)(1) because the research presents minimal risk to subjects and qualifies under the expedited review category(s) listed below.

Date of IRB Approval: May 7, 2010
Date of IRB Approval Expiration: May 7, 2011
Expedited Review Category: 7

In addition; the protocol has been reapproved for the inclusion of children, non-English speaking subjects, pregnant women/ fetuses, a waiver of documentation of the consent process, and for a waiver of parental permission.

If applicable, informed consent (and HIPAA research authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. The IRB-approved consent form and process must be used. Changes in the research (e.g., recruitment procedures, advertisements, enrollment numbers, etc.) or informed consent process must be approved by the IRB before they are implemented (except where necessary to eliminate apparent immediate hazards to subjects).

This approval is valid for **one year** from the date of IRB review when approval is granted or modifications are required. The approval will no longer be in effect on the date listed above as the IRB expiration date. A Continuing Review application must be approved within this interval to avoid expiration of IRB approval and cessation of all research activities. A final report must be provided to the IRB and all records relating to the research (including signed consent forms) must be retained and available for audit for at least 3 years after the research has ended.

It is the responsibility of all investigators and research staff to promptly report to the IRB any serious, unexpected and related adverse events and potential unanticipated problems involving risks to subjects or others.

This approval is issued under The Ohio State University's OHRP Federalwide Assurance #00006378.

All forms and procedures can be found on the ORRP website – www.orrp.osu.edu. Please feel free to contact the IRB staff contact listed above with any questions or concerns.

Jeanne A. Clement, EdD, Chair
Behavioral and Social Sciences Institutional Review Board

hs-017-06 Exp Approval New CR
Version 01/13/09

THE UNITED REPUBLIC OF
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11th August 2009

Ms Adrienne Strong
The Ohio State University,
23 Northland Ave. Lakewood, OH 44107, USA
C/O Dr Aubrey Mushi
Medical Officer Incharge, Singida Regional Hospital
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**CLEARANCE CERTIFICATE FOR CONDUCTING
MEDICAL RESEARCH IN TANZANIA**

This is to certify that the research entitled: An Examination of the Barriers to the Uptake of Health Services during pregnancy in rural Tanzania, (Strong A E *et al*), whose Local Investigator is Dr Aubrey Mushi, Singida Regional Hospital, Singida, has been granted ethics clearance to be conducted in Tanzania.

The Principal Investigator of the study must ensure that the following conditions are fulfilled:

1. Progress report is made available to the Ministry of Health and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health and the National Institute for Medical Research.
4. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine.
5. Approval is for one year: 11th August 2009 to 10th August 2010.

Name: Dr Mwelecele N Malecela

Signature

ACTING CHAIRPERSON
MEDICAL RESEARCH
COORDINATING COMMITTEE

CC: RMO
DMO

Name: Dr Deo M Mtasiwa

Signature

CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH, SOCIAL
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